

# District Disaster Management Plan

(DDMP)

Year – 2021

## District - Junagadh



**District Emergency Operation Centre,  
Collector Office, Junagadh.**  
Gujarat State Disaster Management Authority.



**DISASTER MANAGEMENT PLAN: DISTRICT-Junagadh**

### **Preface:**

In recent years, the Government of Gujarat has been giving increased focus towards the Disaster Management and related aspects. As a part of Disaster Risk Management, all the Villages, Taluka and City in the Junagadh district have prepared their Disaster Management Plans and are being updated every year.

The District Disaster Management Plan is a summary document giving the details about the hazards, its history, vulnerability analysis, risk assessment and flood management strategy and mitigation plan. It also outlines the flood response plan, warning system, communication system, search, rescue, relief operations and contingency plans.

We have tried to include the District related information, Risks and Preparedness against risks, responses at the time of disasters as well as Disaster Management and strategy during the disaster etc for Junagadh District. This Plan is updating periodically, and also we are improving it through our draw backs, errors and new lessons learnt.

I hope that this document shall go a long way in helping the district administration in tackling the disaster situations in a systematic and smooth manner.

Signature of District Collector

:-



Collector-Junagadh

Name of District Collector	:-	Dr. Sourabh Pardhi (I.A.S.)
Date of Plan (submit)	:-	06/05/2021

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### **CHAPTER-1**

#### **• Introduction:**

The Government of Gujarat has envisaged the development of a holistic approach designed to manage disasters on a more proactive basis. The approach involves formulating a comprehensive policy on all phases of disaster management, and addresses the entire gamut of disasters arising from natural and manmade causes.

District Administration is primarily responsible for disasters/crisis management including prevention and mitigation. The existing Circulars of State Relief Manual guides the entire process of administration for relief and recovery in the State. These Circulars mainly address post-disaster events and the scope is limited to some of the natural hazards – floods, droughts & earthquake.

The Junagadh District is prone to many natural and man-made disasters. Natural disaster vulnerability of the District is presented in the Vulnerability Atlas of Gujarat prepared by GSDMA (Gujarat State Disaster Management Authority). The Atlas covers hazard vulnerability of the District to flood, wind and earthquakes.

#### **1.1 Aims and Objectives**

The aims and objectives of the Plan is to minimize the loss of lives and social, private and community assets because of natural and manmade disasters –

1. To assess the risks and vulnerabilities associated with various disasters.
2. To develop appropriate disaster prevention and mitigation strategies.
3. To provide clarity on roles and responsibilities for all stakeholders concerned with disaster management so that disasters can be managed more effectively.
4. To develop and maintain arrangements for accessing resources, equipment, supplies and funding in preparation for disasters that might occur.
5. To ensure that arrangements are in place to mobilize the resources and capability for relief, rehabilitation, reconstruction and recovery from disasters.
6. To create awareness and preparedness and provide advice and training to the agencies involved in disaster management and to the community.
7. To strengthen the capacities of the community and establish to maintain effective systems for responding to disasters.
8. To carry out restoration and rehabilitation measures soon after the disaster strikes.

#### **1.2 Evolution of the Plan**

District Administration prepares plan using guidelines & ensures that these are constantly reviewed and updated. Junagadh District prepared in advance, designate evacuation areas for use in emergencies and defines plans for providing essential services to those areas, when in use.

While preparing a District Disaster Management Plan for Junagadh District, the data collected at various levels were collated and on top of that was added with the Line department data. All this is made available with the in-house developed IT system 'State Disaster Resource Network [SDRN]'. It gives information access to all the officials at Taluka, District and state Secretariat level.

### **1.3 How to use the plan**

The District Disaster Management Plan has included all functions pertaining to disaster prevention, mitigation, preparedness, response, relief, recovery and rehabilitation. This Plan can apply to disaster management administration for all possible hazards that the District is prone to.

For efficient execution of the District Disaster Management Plan, the Plan has organized as per following four stages of the Disaster Cycle. (1) In Non disaster stage: Activities include disaster mitigation, leading to prevention & risk reduction. (2) In Before disaster stage: Activities include preparedness to face likely disasters, dissemination of early warnings. (3) In During disaster stage: Activities include quick response, relief, mobilization of search & rescue, damage assessment. (4) In After disaster stage: Activities include recovery & rehabilitation programs in disaster affected areas.

The District Disaster Management Plan can be utilised but not limited for:

1. To integrate disaster risk reduction into sustainable development policies and planning;
2. To develop and strengthen institutional mechanisms and capacities to build resilience to hazards;
3. To systematically incorporate all international, regional, national and local disaster risk reduction strategies and approaches into the implementation of emergency preparedness, response and recovery.
4. To achieve a comprehensive, all hazard, all agencies approach by achieving the right balance of prevention, preparedness, mitigation, response and recovery;
5. Prepare communities to ensure that they are fully equipped to anticipate and respond to disaster events.
6. To promote a transparent, systematic and consistent approach to disaster risk assessment and management.
7. A multi-stakeholder participatory approach including community participation at all levels
8. Develop a database and information exchange system at regional level.

### **1.4 Authority for the plan**

The Gujarat State Disaster Management Act of 2003 authorizes the collector to secure cooperation and assistance from other parties in efforts to avoid or reduce the impact of disasters.

The Collector (Specifically) and Government authorities (generally) are responsible for managing hazards and disasters, which affect a district, with support from GSDMA, the relief commissioner and other public and private parties as, may be needed.

### **1.5 Stakeholders and their responsibilities**

The roles, responsibilities and obligation of the Collector and other Stakeholders are set out in detail in the Act and are considered as part of this plan.

#### **Clause 26 of Chapter X. (THE GUJARAT STATE DISASTER MANAGEMENT ACT, 2003)**

- (1) Each department of the Government in a district shall prepare a disaster management plan for the district and the Collector shall ensure that such plans are integrated into the disaster management plan for the whole of the district.
- (3) A department of the Government shall subject to the supervision of the Collector -
  - (a) prepare a disaster management plan setting out the following, namely :-
    - (i) the manner in which the concept and principles of disaster management are to be applied in the district;

- (ii) role and responsibilities of the department of Government in terms of the disaster management plan of the State;
- (iii) role and responsibilities of the department of Government regarding emergency relief and post disaster recovery and rehabilitation;
- (iv) capacity of the department of Government to fulfill its roles and responsibilities;
- (v) particulars of disaster management strategies; and
- (vi) contingency strategies and emergency procedures in the event of a disaster, including measures to finance the strategies;

#### **1.6 Approval of the Plan**

The Line Departments and other Stake Holders of District submits a copy of its disaster management plan, and of any amendment thereto to the Collector for Approval of that Plan.

The Collector shall submit a copy of the district disaster management plan, and of any amendment thereto to the State Disaster Management Authority and the Relief Commissioner for Approval of the Plan.

#### **1.7 Plan review and updation**

The Line Departments and other Stake Holders of District should: regularly review and update the Plan and submit a copy of its disaster management plan, and of any amendment thereto to the Collector. The Same Compiled DDMP document should: regularly update and submits updated copy to Disaster Management Authority and State Relief Commissioner for Review.

Normally, The District Disaster Management Plan of District is updated twice in a year for Review and Updation. It is likely to be prepared in Pre-Monsoon phase in month of May and it is updated in Post Monsoon phase likely to be in month of November every year.



## **CHAPTER – 2 - Hazard Vulnerability and Risk Assessment :**

### **2.1 Matrix of Past disasters in the district**

- **1. Earthquake (January-2001)**

After Earthquake -2001 Relief given to Total 86 Houses under G5 Category for Reconstruction in Junagadh District viz. Junagadh(R)-40, Junagadh(U)-1, Keshod (R)-5, Manavadar (R)-10, Mangrol (R)-21, Vanthali (R)-9.

Lastly an Earthquake of Magnitude 5.3 was strikes on 20th October – 2011 at 10:48 PM. Epicentre was identified at 13 km SE of Sasangir, in Mendarda Taluka. Earthquake was felt in major parts of the District. Total 15 Persons were injured due to earthquake in Maliya and Visavadar Taluka. Total 165 Tent were distributed to structurally damaged houses as an immediate relief. Total 1767 Houses of 34 Villages of Maliya Taluka, were surveyed by different Teams and Relief were distributed to Total 1261 Beneficiaries.

- **2. Flood (June-2005)**

In Year 2005 most of Talukas were affected due to Flood. Damage Report for Effected Taluka, Population, Evacuation, Human-Animal Death, Houses Collapse, Cash Doles and House Hold Relief is as below.

Total Affected Taluka - 6, Affected Villages - 258, Affected Population - 18674.  
 Total Relief Centres - 12, Total Persons got Shelter - 2994  
 Total Human Death - 36, Total Animal Death - 88  
 House Collapse - Huts-10, Pucca House- 29, Kachcha House- 106  
 House Damaged - Huts-2, Pucca House-122, Kachcha House- 1756  
 Cash Doles given to Persons - 44  
 House Hold Relief given to - Families-1733, Persons- 6935

- **3. Cyclone (November-1982)**

The Severe Cyclonic Storm over the Arabian sea Stricks on November 4 to 9, 1982. Observed / Estimated Max. Wind after Landfall was 50 Knots - 93 Kmph. Saurashtra Coast of Gujarat about 45 km east of Veraval was affected very much by this storm. 507 people died and 1.5 lakh livestock perished. 50 fisher men were reported missing in Gujarat Coast.

- **4. Heavy Rain (July-2009)**

In Year 2009, mainly 2 Talukas Maliya and Mangrol were affected due to Heavy Rain. Damage Report for Human-Animal Death, Houses Collapse, Cash Doles and House Hold Relief is as below.

Total Human Death - 12, Total Animal Death - 110

Cash Doles given to Persons - 5596  
House Hold Relief given to - Families-33587  
House Damaged - Fully- 26, Partial- 1614  
Total Persons Shifted at Shelter - 19442  
Food Packets Distributed - 52579

- **5. Drought (1999-2012)**

Drought occurs in 1999 and in year 2012, due to lack of sufficient rain, Half Scarcity was declared for all Talukas of Junagadh District.

- **6. Fire (November-2009)**

Due to Large no of Ginning Mills at Manavadar Taluka and the area Surrounded by Forest of Junagadh and Visavadar are likely to be affected in Fire most frequently. To mitigate against Fire in urban Area, recently GSDMA have Supplied Water Browsers and Mini Fire Tenders to Nagar Palikas of Junagadh District.

- **7. Heat Wave (May-2010)**

Heat Cave conditions were prevailed in parts of Saurashtra including Junagadh for more then 10 days in the month of May holding Temperature more on 40' Centigrade. Highest Temperature for Junagadh was Recorded 44.7 on 20th May-10.

- **8. Cold Wave (January-2008)**

Junagadh and Many parts of Saurashtra had experienced Severe Cold Wave for continuous 12 days. The Severe Cold Wave had abated and the Average Minimum Temperature was 7.3 Degrees.

- **9. Accident (February-2019)**

Junagadh, Vanthali, Maliya, Mangrol and Visavadar Talukas are on N.H. 8-D, 8-E and State Highways which considered as an Accident Prone Zone for Junagadh District. Due to Accident 4 Death was occurs near Mangrol in February-2019.

- **10. Food Poisoning (January-2010)**

Major Food Poisoning Cases were handled by Health Department and Administration During Marriage Ceremony at Khadiya Village of Junagadh Taluka.

- **11. Boat Sinking (November-2009)**

Due to Cyclone "Phayan", all Fishermen were called to return back on port. 2 Boats Named Siv-Sagar (VRC-8497) and Vishwanath (VRC-6618) were Damaged and Sink but all sailors on that boats were safely reach on cost.

- **12. Civil Unrest (February-2002)**

After Godhara Communal Riots, Junagadh and other talukas were slightly affected and total 2 Death occurs, 22 persons were injured, 12 Beneficiaries were given Financial Assistance for Housing Damage, Cash Doles were given to 83 Persons (15 Families), 59 Persons were given Financial Assistance for Damage in Professional Equipments and 17 persons were benefited for House Hold Assistance..



## 2.2 Hazard Risk Vulnerability Assessment (HRVA) – Authority that carried out HRVA:

The threat (risk) and possible impact (vulnerability) which can be actualized from these hazards ranges from minor impacts affecting one village to events impacting larger than the state alone.

The table below summarizes the results of an analysis of hazard, risk and disaster impact in Junagadh. This analysis indicates that disaster planning at the Junagadh district level should first focus on the functional response to the High winds and Sea surge. The functional responses to these events have links to the response to floods, hail storms and dam failure. Typical responses to these disaster events also can apply to fire, industrial accidents, failure of critical infrastructure and building collapse.

Hazards	Probability Rating	Impact Rating	Vulnerability Ranking	Vulnerable Areas/Talukas
Earthquake	3	5	15 (High)	Zone- III : Entire District
High Wind	3	4	12 (High)	Mangrol, Maliya(H)
Flood	3	3	9 (Moderate)	Vanthali, Manavadar, Maliya, Mangrol.
Fire	3	3	9 (Moderate)	Visavadar, Manavadar, Junagadh.
Sea Surge	4	2	8 (Moderate)	Mangrol, Maliya(H)
Industrial Accidents	3	2	6 (Moderate)	Junagadh
Drought	2	3	6 (Moderate)	Entire District
Food Poisoning	2	2	4 (Low)	Any Where in District
Civil Unrest	2	2	4 (Low)	Any Where in District
Epidemics	2	2	4 (Low)	Any Where in District
Building Collapse	2	1	2 (Low)	Any Where in District
Boat Sinking	2	1	2 (Low)	Mangrol, Maliya(H) Taluka
Animal Disease	1	2	2 (Low)	Any Where in District
Dam Failure	1	1	1 (Low)	Any Where at Dam sites
Land Slides/ Mud Flows	1	1	1 (Low)	Girnar Hilly Area, Junagadh

## 2.3 Tool and methodology used for HRVA:

All events or activities carry some risk and are associated with some level of vulnerability. Risk and vulnerability ranking is the process of assigning scores to the risk and possible impact of hazards to be able to compare the likely vulnerability and make informed management decisions about which hazards are of greatest concern and when planning and preparation efforts should be directed. A risk and vulnerability ranking process has accomplished in five steps.

1. Identify the Hazards of Concern: Complete the hazards column for the above mentioned table. Typical hazards have already been identified, but these should be confirmed at this step and additional hazards added as appropriate.

2. Assign the Probability Ratings: Assess the probability-or "livelihood" of each hazard by reaching a consensus on probability and then assign each hazard a "Probability Level," as indicated in above Table.

3. Assign the Impact Ratings: Assess the potential magnitude or impact of each hazard and assign each "Impact Level" in above table. Enter the impact score for each hazard in the table in Step 1.

4. Assign "Vulnerability" Ranking: Multiply probability and impact scores in table in Step 1. The resulting score indicates the vulnerability ranking. Scores above 12 indicate high vulnerability; score between 6 & 12 indicate medium vulnerability and score below 6 indicate low vulnerability.

5. Identify Areas with Highest Vulnerability: Once vulnerability ranks had identified, the locations and populations considered most vulnerable was identified. This aids in knowing where disaster assistance may be most needed, as well as providing a quick indication of where vulnerability reduction efforts could be most productive.

#### **2.4 List of hazards with probability to be addressed in this plan:**

Junagadh has been traditionally vulnerable to natural disasters on account of its unique geo-climatic conditions. Floods, Drought, Cyclones and Earthquake have been recurrent phenomena. Entire District Fall in to Seismic Zone-III for Earth, 2 Coastal Talukas are prone to Cyclone, 4 Talukas are Prone to Flood, and Entire District is also susceptible to drought.

<b>Sr.</b>	<b>Type of Disaster</b>	<b>Last Impact (frequency) Month / Year</b>	<b>Intensity (magnitude)</b>
1	Earthquake	January-2001 and October-2011	Medium
2	Flood	June-2005	Heavy
3	Cyclone	June-2019	Heavy
4	Heavy Rain	July-2009	Medium
5	Drought	1999 & 2012	Medium
6	Fire	March-2018	Light
7	Heat Wave	May-2019	Medium
8	Cold Wave	January-2017	Light
9	Accident	February-2019	Light
10	Food Poisoning	April-2018	Medium
11	Boat Sinking	November-2009	Light
12	Civil Unrest	February-2002 and July-2004	Light

#### **2.5 List of vulnerable Talukas (hazard-wise): details given as Topic 2.1 (Past Disasters):**

<b>Sr.</b>	<b>Type of Disaster</b>	<b>Affected Area / Taluka</b>
1	Earthquake	Junagadh, Keshod, Manavadar, Mangrol, Vanthali, Maliya.
2	Flood	Vanthali, Manavadar, Visavadar, Maliya, Mangrol, Keshod.
3	Cyclone	Mangrol, Maliya.
4	Heavy Rain	Mangrol, Maliya.
5	Drought	Entire District
6	Fire	Junagadh, Manavadar, Visavadar
7	Heat Wave	Junagadh, Keshod, Vanthali
8	Cold Wave	Junagadh.
9	Accident	N.H. 8-D, 8-E and State Highways
10	Food Poisoning	Junagadh
11	Boat Sinking	Mangrol, Maliya.
12	Civil Unrest	Junagadh, Mangrol, Bhesan.

## **2.6 Resource analysis: (Analysis and outcome).**

### **Resources Provided by Govt. at Various Levels.**

#### **(A) Rescue Kits / Ropes / Generators**

<b>Detail of Resources</b>	<b>Life Saving Jacket</b>	<b>Life Buoy</b>	<b>200 Feet Ropes</b>	<b>100 Feet Ropes</b>	<b>Generator</b>
<b>Total</b>	<b>228</b>	<b>168</b>	<b>22</b>	<b>44</b>	<b>11</b>

#### **(B) Fire Fighter / Water Browsers / Boat / De-Watering Pump Details**

<b>Detail of Resources</b>	<b>Fire Fighter</b>	<b>Water Browser</b>	<b>Boat</b>	<b>De-Watering Pump</b>	<b>Emergency Lighting System</b>	<b>Motorcycle Water Mist</b>
<b>Total</b>	<b>8</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>21</b>	<b>6</b>

All District level officers, Sub-Divisions and Talukas have been provided with Telephone connection, Fax Machine, Computers with peripherals, Vehicle, emergency lights and Generator.

All Police Stations/Out Posts have Telephone connection or VHF Communication facilities.

All Fire stations of the District are equipped with the basic resources for search and rescue operations. State Government has provided Water Browsers, Boat and also recently provided Emergency Lighting System and Motorcycle Water Mist to Most of Nagarpalikas of District.

## **2.7 Capacity Analysis:**

In case of Junagadh District, considering the potential hazards and existing vulnerabilities, the current capacity of the district is just Medium, in terms of inventory, and the availability of resources (man & material) and utility point of view. The key details of the inventory and resources are in annexure.

Considering the profile of the district it is analyzed that sufficient resources are not available within the district. Material resources, monetary resources and human power are not sufficient to manage any larger calamities.

## **2.8 Outcome & recommendations of hazard, risk, vulnerability and capacity analysis.**

A number of special programs are in operation for mitigating the impact of natural disasters and local communities have developed their own indigenous coping mechanisms. In the event of an emergency, the mobilization of community action supported by NGOs, add strength to the national disaster management capacity.

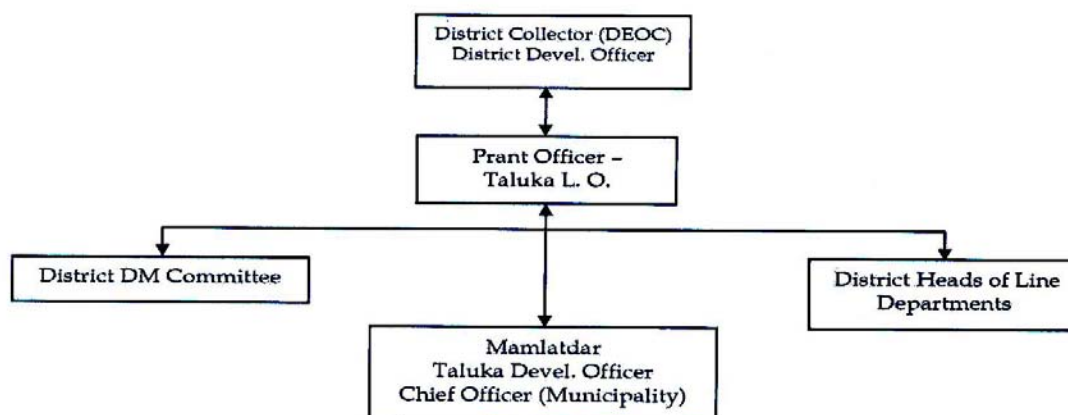
Despite initiating various disaster mitigation measures, there has been little improvement. Accordingly, Junagadh District has taken initiatives for linking disaster mitigation with development plans, promote the application of effective communication systems and information technology, insurance, extensive public awareness and education campaigns, involve the private sector and strengthen institutional mechanisms and international community cooperation.



### 3.2 D.M. organizational structure in the district.

The DM structure in the District is as per the Gujarat State Disaster Management Act – 2003. The District has existing institutional arrangements in place for addressing the roles / responsibilities envisaged through the provisions.

The District Collector is responsible for coordinating all disaster management activities at the district level. The Collector shall approve a district disaster management planning and review all measures relating to preparedness and response to various hazards. In times of disasters, District Collector may constitute a District Relief Committee to oversee management of relief.



### 3.3 District Crisis Management Group (Task Force).

District is Responsible for assuring specific operations according to objectives and plans to address the immediate impacts of the incident. District Crisis Management Group (Taskforces) will deal with specific functional tasks, such as search and rescue, the provision of water or shelter. The composition and size of these taskforces depends on the nature of the incident.

The District administration of Junagadh has identified 16 expected task forces for key response operation functions that are described below. Additional taskforces can be added under the operations section as needed by the circumstances of a disaster. Each Taskforce is led by one organization and supported by other organizations.

Emergency Taskforce	Functions & Co-ordination with of Control Rooms
1. Coordination and Planning	Coordinate early warning, Response & Recovery Operations
2. Administration and Protocol	Support Disaster Operations by efficiently completing the paper work and other Administrative tasks needed to ensure effective and timely relief assistance
3. Warning	Collection and dissemination of warnings of potential disasters
4. Law and Order	Assure the execution of all laws and maintenance of order in the area affected by the incident.
5. Search and Rescue	Provide human and material resources needed to support local evacuation, search and rescue efforts.
6. Public Works	Provide the personnel and resources needed to support local efforts to re-establish normally operating infrastructure.

<b>Emergency Taskforce</b>	<b>Functions &amp; Co-ordination with of Control Rooms</b>
7. Water	Assure the provision of sufficient potable water for human and animal consumption (priority), and water for industrial and agricultural uses as appropriate.
8. Food and Relief Supplies	Assure the provision of basic food and other relief needs in the affected communities.
9. Power	Provide the resources to re-establish normal power supplies and systems in affected communities.
10. Public Health and Sanitation	Provide personnel and resources to address pressing public health problems and re-establish normal health care systems.
11. Animal Health and Welfare	Provision of health and other care to animals affected by a disaster.
12. Shelter	Provide materials and supplies to ensure temporary shelter for disaster-affected populations
13. Logistics	Provide Air, water and Land transport for evacuation and for the storage and delivery of relief supplies in coordination with other task forces and competent authorities.
14. Survey (Damage Assessment)	Collect and analyse data on the impact of disaster, develop estimates of resource needs and relief plans, and compile reports on the disaster as required for District and State authorities and other parties as appropriate.
15. Telecommunications	Coordinate and assure operation of all communication systems (e.g.; Radio, TV, Telephones, Wireless) required to support early warning or post disaster operations.
16. Media (Public Information)	Provide liaison with and assistance to print and electronic media on early warning and post-disaster reporting concerning the disaster.

The specific response roles and responsibilities of the taskforces indicated above is that these roles and responsibilities will be executed and coordinated through the ICS/GS system. For example, in flood, search & rescue would come under the Operations section, Transport would come under the Logistics Section and Public Information under the Public Information Unit.

#### **The District CRISIS Management Group & COMPOSITION of the TASKFORCES:**

<b>No.</b>	<b>Task Force</b>	<b>Taskforce Leader</b>	<b>Supporting members/ Organizations</b>
1.	Planning and Coordination	Collector	DDO, SP, Chief Officer, RAC and Mamlatdar
2.	Administration & Protocol	Collector	DDO, SP, Chief Officer, RAC and Mamlatdar
3	Damage Survey/ Assessment	Collector	DIC, Dy. DDO, Ex. Engr., R&B, DAO, Fisheries
4	Warning	RAC	Disaster Mamlatdar, Control Room, District Information Officer (DIO)
5	Communications	RAC	Dy. Mamlatdars, Mobile Operators, TV, Radio, Port Office, GMB, Police, Forests
6	Media	District Information Officer	Information Department, Print, Media, TV, Journalists, NGOs

No.	Task Force	Taskforce Leader	Supporting members/ Organizations
7	Logistics	DDO	RTO, DSO, FPS, Private & Public sector, Municipal water supply board, Mamlatdar, Dist. Supply Mamlatdar
8	Law & Order	SP	Dy. SP, Home Guards Commandant, NGOs, Paramilitary and Armed Forces
9	Search & Rescue	Dy. Collector Civil Defence	Mamlatdar, TDO, Police, Executive Engr., Fire Brigade, RTO, State Transport, Health Deptt.
10	Public Works	Ex. Engr. R&B (State)	Irrigation, Ex. Engr., Panchayat, NGOs, Water Supply Board, Municipalities, Home Guards, Police
11	Shelter	Dist. Primary Edu. Officer	School Principal, Teachers, Health, PHC, State Transport, Water Supply, RTO, Mamlatdar, TDO.
12	Water Supply	Ex. Eng. GWSDB & Water Works	Dy. Ex. Engr., Talati, Mamlatdar, TDO, Health, Dy. Engineer
13	Food & Relief Supplies	Dist. Supply Officer	FPS, PDS, Mamlatdar, NGO, RTO, State Transport, Municipality, DRDA, Police, Home guard
14	Power	Supt. Engr. GEB	Ex. Engr., Dy. Engr. Technical, GEB, Transport
15	Public Health & Sanitation	Chief District Health Officer (CDHO)	Supt. Govt. Hospital, Municipality, PHCs, CHCS, Red Cross, Fire Brigade, Civil Defence, R&B, NGOs, Doctors, TDO, Mamlatdar
16	Animal Health & Welfare	Dy. Director Animal Husbandry	Veterinary Inspector, NGOs

### 3.4 District Disaster Management Committee

District Disaster Management Committee is the high-powered committee at District level to look after disaster management and emergency response. This committee is chaired by the Collector with all Policy Makers from the District/Nodal Officer of each line department/ADM /SDMs and nodal officers from various Organizations as its members. ADM is the convener of District Disaster Management Committee (DDMC). A District Project Officer (DPO) has been appointed by GSDMA in the district to look after the day-to-day affairs of disaster management along with Mamlatdar Disaster Management in the district. The DDMC members meets to prevent and mitigate crisis situation in district. Minutes of DDMC meeting shall circulated among the members. Each of the DDMC members is member of the Emergency Support Functions (ESFs) in the district.

### 3.5 Incident Response System in the State

In any disaster response, the initial efforts would always be taken by the District Administration. However, when Districts are overwhelmed in any situation, the support necessarily has to come from the State level. There is a formal Incident Response System in the State. The GSDMA Act 2003 empowers Commissioner of Relief to be the Incident Commander in the State and District Collector in the respective districts. The detail on the Incident response structure of the State is mentioned in Para 3.1 in chapter 3.



### **3.6 Incident Response System in the District.**

The District Magistrate is the chairman of the DDMA as per the Act. The roles and responsibilities of the members of the DDMA have decided in advance in consultation with the concerned members. The roles of other line departments also have clearly discribed in DDMP and circulated the copy of same to all.

The IRS however depend on the nature of the disaster. In case of flood and earthquakes reaching the affected area, rescuing the affected people and providing relief to them is the main task of the responders. People have to leave their home in a hurry and they are not able to take away their valuables. These abandoned houses become vulnerable. The relief materials while being transported also become prone to loot. In such cases, Police and the Armed Forces are the best suited to handle and lead the operations section. In case of fire at Corporation and Nagarpalika level, it has the Fire Officer who are appropriate officer to handle the situation. In case of health related disaster, it would be the District Chief Medical Officer and so on.

Some of the natural hazards have a well-established early warning system. District also has a functional 24 x 7 EOC / Control Room. On receipt of information regarding the impending disaster, the EOC informs the District Collector, who in turn will activate the required IRT and mobilise resources. The scale of their deployment will depend on the magnitude of the incident.

In case of Sub-Division, Taluka, the respective heads, i.e. TDO, Mamlatdar and BHO will function as the IC in their respective IRTs. During the pre-disaster period, the Collector has ensure capacity building of IRT members in their respective roles and responsibilities.

In case when central teams (NDRF, Armed Forces) are deployed, the DM will ensure resolution of all conflicts. For this purpose he may attach a representative of such agencies in the DEOC where all conflicts can easily be resolved at the highest level. The DM works in close coordination with DEOC and report to State Relief Commissioner and CEO-GSDMA.

### **3.7 EOC setup and facilities available with the location**

The District Control Room (DEOC) is located at District Collector's Office. It is also the central point for information gathering, processing and decision making more specifically to combat the disaster. Most of the strategic decisions are taken in this control room with regard to the management of disaster based on the information gathered and processed. The Incident Commander takes charge at the District Control Room and commands the emergency operations as per the Incident Command System organizational chart.

#### **• Facilities at District Control Room**

The District Control Room (DEOC) is equipped with but not limited to the following items:

- 3 Telephones Lines and Fax
- 2 Walky Talky Sets and 1 VHF Set
- Satellite Nera phone
- Three PCs with GSWAN based e-mail, web site facilities and Printers
- Conference table with Chairs in Conferance Hall
- District Disaster Management Plan and District's Communication Plan
- 3 TVs for updated News telecasts.
- Projector with Screen and 2 Portable Emergency Lightning Systems.

### **3.8 Alternate EOC if available and its location**

The Taluka Level Control Rooms are located at the Office of Mamlatdar. The Liaison Officers of the respective Talukas takes charge of the Control Room in any emergency. The respective Liaison Officers coordinates between the task group members working at disaster sites and TEOC for mobilization of resources and dissemination of instructions received from DEOC.

### **3.9 Public and private emergency service facilities available in the district**

Following Public and Private Emergency Services Facilities is available in Junagadh:

1. 108 EMRI Ambulance have their Spot in every Taluka Hq. and all City.
2. Junagadh Municipal Corporation has their Equipped Fire and Emergency Service.
3. All Nagarpalika have their Fire Fighting Equipments and Staff.
4. R&B, S.T., Forest, Health, Irrigation and Police Department have their limited Emergency Services to co-ordinate during Emergency Situation in District.

(GSDMA) has also provided fire & emergency equipment to Municipal Corporations, Municipalities and the Emergency Response Centres to respond immediately after a disaster.

### **3.10 Forecasting and warning agencies**

The meteorological department undertakes observations, communications, forecasting and weather services. During the cyclone and flood seasons, the State Government keeps close contact with the IMD – Ahmedabad office for weather related forecasts.

Earthquakes occurring in the State which are of magnitude 3.0 and above on Richter scale are also reported by the IMD and ISR to the District Authority immediately.

Initially the District Control Room based at DEOC plays an active role on disseminating of Forecast and Warnings to line departments, Taluka-City level control Rooms and also ensures to reach with widely spread mass public through Local Media.

DEOC Personnel are well trained on observing IMD weather Satellite images, animated movement of Clouds, Weather Predictions, Hourly Predictions and Coastal advisories on daily basis. If certain critical warning issued by metrology department then it is immediately forwarded to SDMs, Mamlatdars, TDOs and COs for further actions.

Alternatively Junagadh Agriculture University has their own Forecasting and Warning department who shares their advisories and warnings by e-mail periodically.



## **CHAPTER – 4**

### **Prevention and Mitigation Measures:**

#### **4.1. Prevention measures in development plans and programs:**

##### **Individual and Community Level:**

Preventive actions have to be taken before a disaster to reduce the likelihood of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction. The district can avail itself of four mechanisms (singularly or together) to reduce risk and vulnerability;

- Long term planning for mitigation, preparedness and prevention investments in district,
- Enforcement of regulations, particularly building and safety codes and land use plans,
- Review and evaluation of development plans and activities to identify ways to reduce risks and vulnerability, and,
- Capacity building, including warning, the provision of relief and recovery assistance and community-level identification of risk and vulnerability.

The Collector, assisted by the District Development Officer, is responsible for developing plans and activities to effect mitigation, preparedness and prevention using the mechanism noted above. Base on the interim assessment of risk and vulnerabilities, the Junagadh District will focus on the following areas for mitigation, preparedness and prevention;

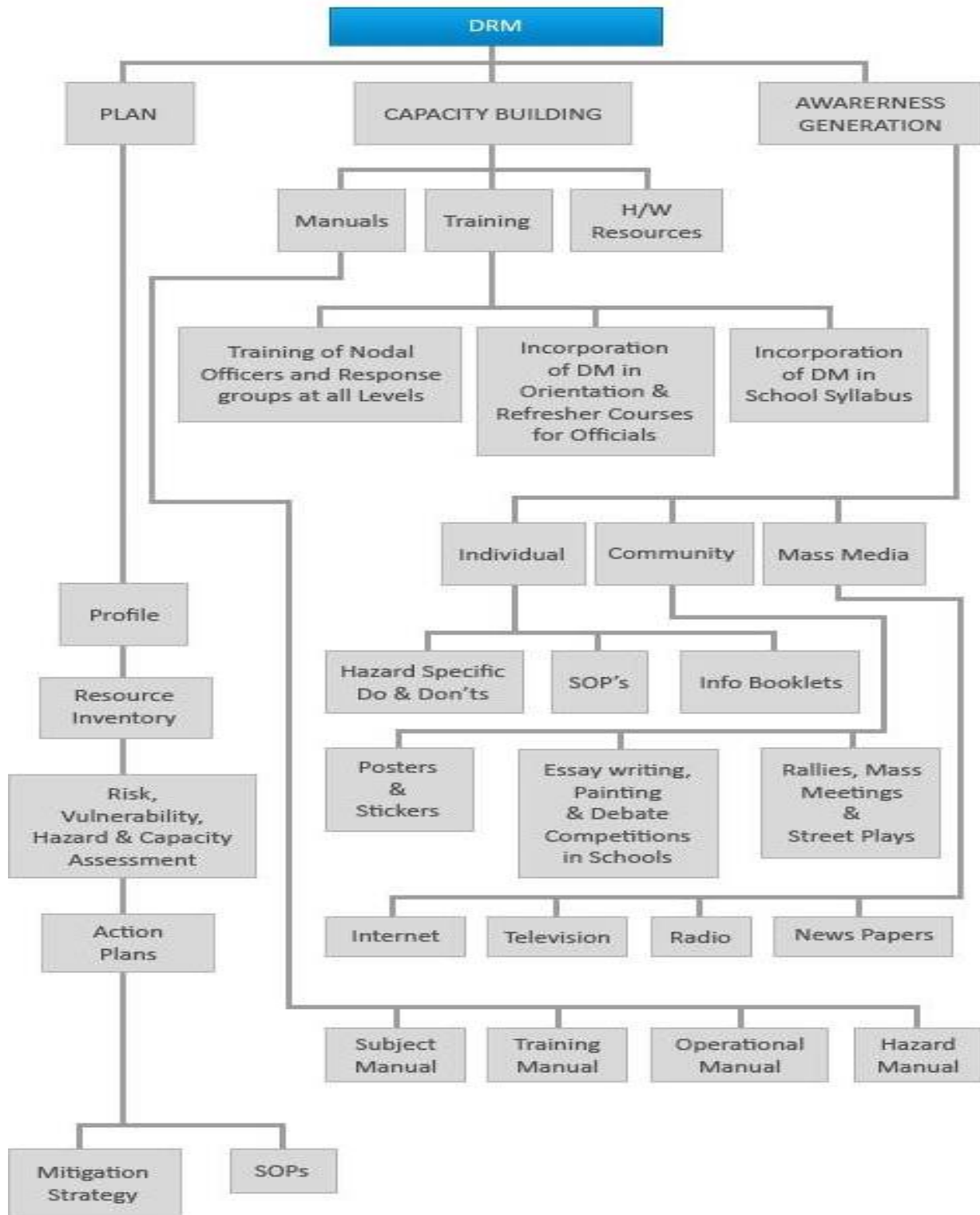
- Resilience of lifeline systems (water, power and communications)
- Reduction in disaster impact on health care facilities, schools and roads
- Vulnerability reduction in flood-prone areas
- Vulnerability reduction to high winds
- Improvement of off-site Preparedness near Industrial sites.

#### **4.2 Special projects proposed for preventing the disasters**

Disaster Risk Management Programme (DRM) has taken strong roots at various levels of administration in Gujarat. The Department of Revenue & Disaster Management is the nodal Department in Government of Gujarat that handles the subject with GSDMA.

Disaster Management Committees are formed at various levels and are assigned the task of implementing the programme. Representation for these committees are drawn from elected representatives, officials of line departments, professional bodies, Civil Defence, NGO and CBO representatives and local opinion leaders.

Major Activities are being carried out under DRM program are Plan Development at Various Levels, Emergency Resources Database maintain through SDRN / IDRN, Capacity Building through Trainings & Resource Mobilisation, Disaster Awareness through Orientations, Campaigning, Media Management and IEC distribution. Coordinate District Administration for all Disaster Management Activities with expertise knowledge, logistics and fund allocation.



### **4.3 Hazard-wise mitigation measures**

In the face of increasing menace of hazards, mitigation would remain the key and the most effective strategy to reduce the risks of these hazards. District has its own mitigation strategy according to its own risks, resources and capabilities. In District Junagadh, there shall be two approaches in disaster mitigation viz. structural mitigation and non-structural mitigation.

Structural mitigation measures generally refer to capital investment on physical constructions or other development works, which include engineering measures and construction of hazard resistant and protective structures and other protective infrastructure.

There are several mitigation activities which will be common for all natural hazards (as discussed in previous chapter). The same are describe below.

i) Town Planning Acts and their related provisions:

The Department of Disaster Management, being a member of all regulatory bodies will coordinate with the Town & Country Planning Board and constitute a committee of experts to evaluate the provisions of the State Town Planning Act in place. The Committee will consist of experts from the fields of disaster management, town and country planning and legal experts and will be chaired by the State Relief Commissioner.

ii) Government-sponsored programmes and schemes:

The State Planning Department will prepare a report on the government sponsored programmes and schemes running in the State and how far each programme/scheme addresses the issue of disaster management and submit to the government. The Disaster Management Group which is constituted under the chairmanship of the Chief Secretary with Secretaries of the Departments of Disaster Management, Urban Development, Rural Development, Health, Home, Finance, Science & Technology, Transport, and Agriculture to evaluate and suggest disaster mitigation measures to be incorporated.

iii) Building Bye-laws and their implementation:

Proper conceptualization, risk evaluation, proper designing, construction and maintenance of houses and building are all disaster reduction measures. Compliance to building guidelines and codes covering all aspects of disasters needs to be addressed by building codes and bye-laws and these need to be uniform as far as possible. The situation warrants a high degree of coordination between the organizations involved in the formulation of the building codes. The State Urban Development Department/Urban Local Bodies will put in place appropriate techno legal regime and take steps to enhance the capacity of Urban Local Bodies to enforce the compliance of techno-legal regimes. The Urban Local Bodies will ensure stringent implementation of BIS codes and disaster resistant construction practices. Disaster resistant codes and standards will be made a part of the building byelaws and regulations and enforced by the ULBs. The Department of Urban Development will identify a competent authority to certify the disaster resistant components in public buildings.

### **4.4 Hazard-wise non-structural mitigation measures**

The non structural mitigation is basically framed in such a way that the population of the district will be sensitized on disaster management and their capacity is developed to cope up with a hazardous situation. District Junagadh has specific plan for non-structural mitigation measures which is an ongoing process in various spheres of life.

Non-structural measures refer to awareness and education, policies techno-legal systems and practices, training, capacity development etc. The technical guidelines, design and training manuals should incorporate suitable disaster risk mitigation measures. There are several non-structural mitigation activities which will be common for all natural hazards.

i) **Capacity Building for Mitigation:**

Recognizing the importance of human resource development and capacity building for effective disaster mitigation, the State will take appropriate steps to develop training curriculum for officials in all sectors at all levels. The SPIPA in collaboration with the Gujarat Institute of Disaster Management and training institutes in related sectors like health etc will develop the required modules and capsules for conducting training at all levels. Efforts will be made by the state government to effectively train engineers, architects, masons etc on disaster mitigation and also create a pool of master trainers for training of the DMC's and DMTs in the state. The District Level Training Institutes, DEOC, BRCs, CHCs etc. will be utilized for training of district, taluka and village level officials in disaster management.

ii) **Awareness generation on disaster mitigation:**

Creating awareness among the community through disaster education, training and information dissemination and thus empowering them to cope with hazards are all mitigation strategies. The Disaster Management Cell will develop a Mass Media Campaign for taking up large-scale awareness generation bringing out specific do's and don'ts through audio, video and print media as well as publicity through pamphlets, posters, bus back panels at all levels. The District Project Officer will ensure that all these publicity materials are prominently displayed at buildings like PHCs, Community Centres, Schools and such other common places where villagers normally congregate for community activities.

iii) **Role of local self-governments in mitigation:**

Local self-government institutions like PRIs and ULBs will be the focal points for mitigation at the village and city levels. Members of the PRIs and ULBs will be involved in all preparedness and mitigation measures. Members of the PRIs and ULBs will coordinate the functioning of the DMCs and the DMTs in DM plan preparation, preparation and maintenance of resource inventory, conducting mock drills etc. During disasters also, they will coordinate with the district and taluka administration for evacuation, response, relief distribution etc.

#### **4.5 Specific projects for vulnerable groups**

**NCRMP:**

Gujarat being prone to cyclones, it is the topmost priority of the State Government to reduce the effect of cyclone and minimize the loss to property and lives in the coastal regions of the State through creation of suitable infrastructure. Gujarat has therefore been included in the NCRMP initiated by the National Disaster Management Authority and funded by the World Bank.

**Gujarat School Safety Initiative:**

With the view of building capacities for disaster resilience, Gujarat School Safety Programme is a capacity building programme which aims at strengthening of the capacity of school community and it further builds a disaster safety culture among the most vulnerable section of the society, that is, children. Under this programme, Gujarat School Safety Week is celebrated for enenerating awareness among school children. Gujarat State Disaster Management Authority has successfully celebrated Gujarat School Safety Week 2019 in all the Government Primary Schools.



## CHAPTER – 5

### Preparedness Measures :

#### 5.1. Identification of stakeholders involved in disaster response

Preparedness measures go hand in hand for vulnerability reduction and rapid professional response to disasters. Experience has shown that destruction from natural hazards can be minimized by the presence of a well functioning warning system, combined with preparedness on the part of the vulnerable community. A community that is prepared to face disasters, receives and understands warnings of impending hazards and has taken precautionary and mitigation measures will be able to cope better and resume their normal life sooner. The State will make concerted efforts to put in place a mechanism focused towards preparedness at all levels, for all disasters that the State is vulnerable to. The effort will be to reduce loss of lives, livelihood and property to the extent possible in the event of a disaster.

##### a) State Level:

At the state level, Search & Rescue teams will be constituted from the State Police and will be provided with state-of-the-art equipment for immediate response. The State Home Department will designate the units for conversion into Specialist Response Teams (SRTs). The State will also designate training centres for training the SRTs and nominate key personnel within the Police Training Colleges and Fire Training Institutes as trainers and train them at the national level. These trainers will then impart training to the SRTs.

##### b) District Level:

Subsequently, Specialized Response Teams at the district level will be designated from the district level Police and Fire Service personnel and equipped for immediate response in any disaster within the district. In the event of a request from a neighbouring district these teams will be authorized to operate under the direction of the Collector of that district.

##### c) On-site teams:

Disaster Management Teams (DMTs) at the village level will operate as Incident Management Teams and will be trained to perform immediate rescue and first-aid operations in a disaster situation. A systematic approach should be evolved to ensure proper coordination between the SRTs and DMTs.

#### 5.2 Formation of persons and training for -

Junagadh District administration has identified several stake holders from line departments, corporate sectors, NGOs and volunteers in disaster risk management activities. Students, teachers, home guards, police personnel, NCC and NSS students were also involved in trainings. District officers and community were also oriented on their services so that they can give their service at the time of any emergency.



**(i) Search & rescue:**

It is the duty of the DDMA to provide specialized life saving assistance to district and local authorities. In the event of a major disaster or emergency its operational activities include locating, extricating and providing on site medical treatment to victims trapped in collapsed structures. In the event of any disaster the Home Guards along with the support of the Police dept. form teams to locate injured and dead and try to rescue the ones in need. There are other bodies too that help these departments in this work, like the PWD, Health dept, Fire dept and also the people that voluntarily formed as teams to help the ones in need. Proper training for search and rescue process needs to be undertaken so as to minimize the time taken in rescuing someone. Also proper methodology and resources are needed to carry out a search & rescue mission.

**(ii) Early Warning:**

The early warning systems for different disasters should be in place so that the concerned administrative machinery and the communities can initiate appropriate actions to minimize loss of life and property. These should give an indication of the level of magnitude of the mobilization required by the responders. The goal of any warning system is to maximize the number of people who take appropriate and timely action for the safety of life and property. All warning systems start with the detection of the event and with their timely evacuation. Warning systems should encompass three equally important elements viz detection and warning, dissemination of warning down to the community level and the subsequent quick response.

The State acknowledges the crucial importance of quick dissemination of early warning of impending disasters and every possible measure will be taken to utilize the lead-time provided for preparedness measures. As soon as the warning of an impending calamity is received, the EOCs at the State, District and Taluka levels will be on a state of alert. The Incident Commander will take charge of the EOC and oversee the dissemination of warning to the community. The District Collector will inform the District Disaster Management Committees who will alert the block and Village level DMCs and DMTs to disseminate the warning to the community. In situations of emergency, the District Collector will use his own discretion on the preparedness measures for facing the impending disaster.

**(iii) Evacuation:**

Evacuation is a risk management strategy, which may be used as a means of mitigating the effects of an emergency or disaster on a community. It involves the movement of people to a safer location. However, to be effective, it must be correctly planned and executed. The process of evacuation is usually considered to include the return of the affected community.

On the basis of assessment of the severity of the disaster, the State Relief Commissioner (Incident Commander) shall issue appropriate instructions on actions to be taken including evacuation to the District Collector, who will then supervise evacuation. At the village level, members of the VDMCs and DMTs or village level will coordinate the evacuation procedures to the pre-designated relief centers, taking special care of the vulnerable groups of women, children, old people etc. according to the plans laid down earlier.

**(iv) Damage & Loss Assessment:**

Immediately after the disaster there is an urgent need of damage assessment in terms of loss of life, injury and loss of property. The objectives of damage assessment are to mobilize resources for better rescue and relief, to have detailed information of damage extent and severity of disaster and to develop strategies for reconstruction and restoration facilities.

Immediately after a disaster event, damage assessment will be conducted in 2 phases viz. Rapid Damage Assessment and Detailed Damage Assessment.

**Rapid Damage Assessment (RDA):**

Rapid Damage Assessment shall emphasize on a rapid appraisal of the situation and extent of damage to provide resources for effective relief and rescue. Rapid Damage Assessment (RDA) will be conducted at the local level, where the disaster has occurred. The RDA team will be headed by the local Incident Commander and will comprise of the Talti, CMO of the Sub-Division Hospital, Junior Engineer PWD, and some prominent local persons may be involved at the discretion of the local Incident Commander. The RDA team will report to the District Collector its assessment of the damage. The RDA will be conducted according to a proforma/format developed by the State Disaster Management Authority.

**Detailed Damage Assessment (DDA):**

Detailed Damage Assessment will be done at the district level during the recovery stage involving skilled personnel. The aim of this assessment is to estimate economical and financial aspects of damage, the detailed building damage, agricultural damage, and property damage and also to propose retrofitting or strengthening. The DDA team will be headed by the District Collector and will comprise of the District Relief Officer, Executive Engineer PWD, Chief Medical Officer of the affected district, members of prominent NGOs working in the district and any other expert at the discretion of the District Collector. The DDA team will also have two external observers from the State Disaster Management Authority and DMC Cell of the State ATI respectively. The team will assess the damage on the basis of the format developed in advance by the State Disaster Management Authority in consultation with the DMC Cell of the State ATI and eminent experts in the field.

**5.3 Training need analysis**

Training Analysis is most often used as part of the system development process. Due to the close tie between the design of the system and the training required, in most cases it runs alongside the development to capture the training requirements.

GIDM has analysed education, training and information needs through interviews and conversations with stakeholders in different parts of Gujarat.

The training need analysis is done considering variable factors of intensity, affected population and severity of damage need to be quickly assessed based on which government and non-government agencies can allocate and deploy relief. All the government line departments who have a stake in different phases of the disaster management will have to identify their roles and carry out training need analysis of their personnel.

**5.4 Arrangements for training and capacity building**

Training on search and rescue, rehearsals, evaluation and inventory updation for response activities will be carried out during normal time. District collector will ensure that all the DDMC members acquires knowledge and skills to perform their assigned role through regular refresher trainings. Basic and detailed training modules in disaster preparedness have been incorporated along with training methodologies for trainers, for community preparedness and manuals for training at district, block, panchayat and village levels.

For capacity building several Search & Rescue and First aid trainings organized for beneficiaries, disaster management teams and committee members to be trained at village, city, taluka and district level.

Activity	Responsibility
1. Training to civil defence personal in various aspect of disaster management 2. Training to home Guards personal in various aspect of disaster management including search and rescue	<input type="checkbox"/> Home Dept. <input type="checkbox"/> Commandant General Home Guards <input type="checkbox"/> Director Civil Defence <input type="checkbox"/> GSDMA/GIDM
3. Training to NCC and NSS personal in various aspect of disaster management	<input type="checkbox"/> Education Dep. <input type="checkbox"/> Director NCC <input type="checkbox"/> GIDM
4. Training to educational and training institutions personal in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> GSDMA/GIDM
5. Training to civil society, CBOs and corporate entities in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> GSDMA/GIDM <input type="checkbox"/> NGOs
6. Training to fire and emergency service personal in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> UDD <input type="checkbox"/> Municipal Corporation <input type="checkbox"/> GSDMA/GIDM
7. Training to police and traffic personal in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> GSDMA/GIDM <input type="checkbox"/> Home Dept. <input type="checkbox"/> Police training Institute
8. Training to State Disaster Response Force (SDRF) Teams in various aspect of disaster management	<input type="checkbox"/> NIDM/NDRF <input type="checkbox"/> Home Dept. <input type="checkbox"/> Addl. DGP (Arms) <input type="checkbox"/> Addl. DGP (Training) <input type="checkbox"/> GSDMA/GIDM
9. Training to media in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> Information Dept. <input type="checkbox"/> Information Training Centre <input type="checkbox"/> GSDMA/GIDM
10. Training to govt. officials in various aspect of disaster management	<input type="checkbox"/> NIDM <input type="checkbox"/> GSDMA/GIDM <input type="checkbox"/> Departmental Training Institutes
11. Training to engineers, architects, structural engineers, builders and masons in various aspect of disaster management	<input type="checkbox"/> Departmental Training Institutes under R & B and Irrigation Dept. <input type="checkbox"/> NIDM <input type="checkbox"/> GSDMA/GIDM

### 5.5 Activation of Incident Response System in the district

There is a formal Incident Response System in the State. The GSDMA Act 2003 empowers Commissioner of Relief to be the Incident Commander in the State and District Collector in the respective districts. The detail on the disaster response structure is mentioned in Para 9 in chapter 1.

The NDMA guidelines provide for emergency organizations where different departments, agencies and even private resources (e.g. industries) temporarily align their priorities with the emergency response objective under a unified command. This system is called Incident Response System (IRS) and discussed in detail in the text. It is important to recognize that organization under the IRS and the existing structures of the LCG and DCG are not in conflict although there can be differences in terminologies for some positions in the emergency organization. The IRS gives an emergency organization structure called Incident Response Teams (IRTs) that are pre-designated as per the identified emergency scenarios. While there is a general structure, IRTs are not prescriptive about who must fulfill what position or role instead the decision rests with the local or district level authorities. Therefore the organizations and people that are given specific roles as per existing LCG and DCG structure can be given similar roles or positions in the IRT structure and a coordination between IRTs as per IRS and those as per existing LCG/DCG structures is achieved. The IRS provides additional advantages of being scalable by including additional and higher levels of response in the same unified command structure being flexible by transferring command and other sections of IRS to qualified people as scale and nature of emergency changes, and with a unified command so that there is one authorized, and accountable (technically qualified) incident commander and the command can be transferred up as the scale of emergency increases. The IRS also requires documentation of decisions, actions, and learning so that not only continuous improvement can be achieved but also accountability is fixed.

A traditional command structure exists in the administrative hierarchy which manages disasters in India. It has been planned to strengthen and professionalise the same by drawing upon the principles of the ICS with suitable modifications. The ICS is essentially a management system to organise various emergency functions in a standardised manner while responding to any disaster. It will provide for specialist incident management teams with an incident commander and officers trained in different aspects of incident management, such as logistics, operations, planning, safety, media management, etc. It also aims to put in place such teams in each district by imparting training in different facets of incident management to district level functionaries. The emphasis will be on the use of technologies and contemporary systems of planning and execution with connectivity to the joint operations room at all levels.

## **5.6 Protocol for seeking help from other agencies...**

**(State Government, Govt. of India, NDRF, SDRF, Army, Navy and Air Force etc...)**

For the management and control of the adverse consequences of any disaster will require coordinated, prompt and effective response systems at the central and state government levels, especially at the district and the community levels.

There are various agencies / organizations / departments and authorities that constitute a core network for implementing various disaster management related functions / activities. It also includes academic, scientific and technical organizations which have an important role to play in various facets of disaster management. These agencies (State Government, Govt. of India, NDRF, SDRF, Army, Navy and Air Force) shall be called upon to assist the civil administration only when the situation is beyond the coping capability of the State Government.

## **5.7 Checking and certification of logistics, equipments and stores**

Certification of logistics: the process of response includes personnel, equipments, vehicles, facilities...etc, all of which will depend upon the acquisition, transport, and distribution of

resources, the provision of food and water, and proper medical attention. The Logistic section is responsible for all task and functions related to provision of material and other resources needed for operations and the physical and material support and operation of the incident management team. This section includes transportation taskforce established to support disaster operations. Logistics tasks are through the following units: 1. storage and supply, 2. Facilities, 3. staff support, 4. communications, 5. transportation (include ground, air water).

### **5.8 Operational check-up of Warning System**

The goal of any warning system is to maximize the number of people who take appropriate and timely action for the safety of life and property. All warning systems start with the detection of the event and with their timely evacuation. Warning systems should encompass three equally important elements viz detection and warning, dissemination of warning down to the community level and the subsequent quick response. Experience has shown that destruction from natural hazards can be minimized by the presence of a well functioning warning system. Operational check-ups of warning system in district have been done annually by concerned departments and also during mockdrills initiate during monsoon.

### **5.9 Operational check-up for Emergency Operation Centre**

Apart from Disaster Management developments, District have its Emergency Operation Centre (DEOC) has been started functioning in the Sardar baug campus, Near to Collector Office of Junagadh with all sophisticated equipments and most modern technologies for disaster management. The Additional Collector of District Junagadh is empowered as a Nodal Officer of DEOC and is responsible for Operational check-up for Emergency Operation Centre that includes...,

1. Ensure that all equipments in the EOC are in working condition;
2. Collection data on routine basis from line departments for disaster management
3. Develop status reports of preparedness and mitigation activities in the district;
4. Ensure appropriate implementation of District Disaster Management Plan
5. Maintenance of data bank with regular updating
6. Activate the trigger mechanism on receipt of disaster warning/occurrence of disaster

### **5.10 Seasonal inspection of facilities and critical infrastructure**

The above all responsible Departments / Personnel shall have to carry out periodic inspection of such facilities through their respective control rooms at the frequency set by them and maintain records on the same.

Normally as a pre-monsoon drive in month of April-May, an instruction passed to all departments to carry out seasonal inspections and submit report to DEOC before the pre-monsoon meeting held at collector office chaired by District Collector. Based on report received from agencies, a compiled and consolidate report of all Facilities and Critical infrastructure has been submitted to State EOC every year.

### **5.11 Command and coordination – identification of quick response teams**

Command and coordination of quick response teams establishes the framework within which a single leader or committee can manage the overall disaster response effort. A single Incident Commander is responsible for the successful management of the response during operational period in an area. If the incident grows in size and extends throughout many jurisdictions, multiple incident commanders can be useful with an area command authority may be established to coordinate among the incidents. Incident Commander requires the following Command Staffs to support him, which are as followings,

1. Public Information Officer – the single media point of contact
2. Safety Officer – Responsible for identifying safety issues and fixing them, he has the authority to halt an operation if needed.
3. Liaison Officer – Point of contact for agency to agency issues.

If the local authorities does not have the capacity to play an efficient role at local level to identification of quick response teams and the requirements for field information and coordination. The DEOC will therefore need to send its own field teams and through them establish an Incident Command System. The system will comprise:

1. Field command
2. Field information collection
3. Inter agency coordination at field level
4. Management of field operations, planning, logistics, finance and administration

### **5.12 NGOs and other stakeholders coordination – Activate NGO coordination cell**

Local community groups and voluntary agencies including NGOs should actively assist in prevention and mitigation activities under the overall direction and supervision of the Collector. They should actively participate in all training activities as may be organised and should familiarise themselves with their role in disaster management.

It is a duty of every citizen, NGOs and stakeholders to assist the Collector or such other person entrusted with or engaged in disaster management whenever his aid is demanded generally for the purpose of disaster management.

NGOs of District are working on targeted community or limited to certain specific areas. They are coordinating with district EOC only on direct approach or on allocation of specific tasks.

### **5.13 Seasonal preparedness for seasonal disasters like flood and cyclone**

While analyzing the past experiences pertaining to various natural disasters, communities develop the seasonality calendar based on the occurrence of disaster events. In the calendar below prepared by the community show the month of the disaster occurrence & month for preparedness.

Month	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Flood					√	√	√	√	√			
Cyclone			√	√	√					√	√	

**Main Seasonal Preparedness Strategies:**

1. Mapping of the flood prone areas is a primary step involved in reducing the risk of the region. Historical records give the indication of the flood inundation areas and the period of occurrence and the extent of the coverage. Warning can be issued looking into the earlier marked heights of the water levels in case of potential threat.
2. The onset of cyclones is extensive and often very destructive. A hazard map will illustrate the areas vulnerable to the cyclone in any given year.
3. The map is prepared with data inputs off past climatologically records, history of wind speed, frequency of flooding etc.
4. Land use control will reduce the danger of life and property when waters inundate the flood plains. In areas where people already have built their settlements, measures should be taken to relocate to better sites so as to reduce vulnerability. No major development should be permitted in the areas which are subjected to high flooding. Important facilities should be built in safe areas.
5. Construction of engineered structures in the flood plains and strengthening of structures to withstand flood forces and seepage. The buildings should be constructed on an elevated area. If necessary build on stilts or platform. They should be wind and water resistant. Protect river embankments. Communication lines should be installed underground. Provide strong halls for community shelter in vulnerable locations.
6. Flood Control aims to reduce flood damage. Measures such as reforestation, protection of vegetation, clearing of debris, conservation of ponds and lakes, etc.
7. Structural measures include storage reservoirs, flood embankments, drainage channels, anti-erosion works, detention basins, etc. and non-structural measures include flood forecasting, flood proofing, disaster preparedness, etc.

**5.14 Community awareness, education and preparedness**

Community is the first and last to face the disaster. Equipping them, educating and preparing them for the recurring disasters are of vital importance. The most vulnerable areas are to be identified and periodic awareness programme are to be provided at the Ward level, Panchayat level, Educational Institutions, Social Organizations etc. It is essential to examine the various methods in which the community can be effectively involved in planning for disaster management. A community which is aware and well equipped to handle disasters will boldly face them.

Community awareness will be raised regarding do's and don'ts with the involvement of Panchayati Raj institutions and CBOs. Revenue department will be the nodal agency for this activity. Increasing community awareness about the mitigation measures that can protect the lives and properties from the hazards.

Community Awareness on Various Disasters can be classified in 1. Construction of Earthquake Resistant Structures, 2. Retrofitting the weak structures, 3. House insurance, 4. Construction of embankments for flood control, 5. Rehabilitation of people in safe lands, 6. development of plans for shifting people from vulnerable area to safer area etc. The Community awareness task can be performed by, Advertisement, hording, booklets, leaflets, banners, shake-table, demonstration, folk dancing and music, jokes, street play, exhibition, TV Spot, radio spot, audio-visual documentary and school campaign.



### 5.15 Community warning system

It is often observed that communities living in remote and isolated locations do not receive timely and reliable warnings of impending disasters. Hence, it is necessary to have robust and effective early warning systems, which can play crucial role in saving lives and limiting the extent of damage to assets and services. Outreach and reliability of warnings are key factors for planning and implementing response measures. Post disaster advisories like information on rescue, relief and other services are important to ensure law, order, and safety of citizens. A community that is prepared to face disasters, receives and understands warnings of impending hazards and can able to cope better and resume their normal life sooner.

Community Warning Action Plan	Flood	Cyclone	Chemical and industrial accidents	Tsunami
Existing Community warning system	Irrigation department / IMD ↓ Collector ↓ Mamlatdar/TDO ↓ Villages	IMD ↓ Collector ↓ Mamlatdar/TDO ↓ Villages	Industrial Association/ industries ↓ DCG ↓ LCG ↓ Mamlatdar	IMD ↓ Collector ↓ Mamlatdar/TDO ↓ Villages
Responsible Agency for warning dissemination	Mamlatdar office/TDO	Mamlatdar office/TDO	Mamlatdar office/TDO	Mamlatdar office/TDO

### 5.16 Procurement (Tents, blankets, tarpaulins, equipment etc.)

Facilitating procurement related to disaster management of materials, equipment and services in connection with the disaster management and ensuring their quality is lies with the State authority. At present District has no fund or any instructions to procure such things locally. State authority has the power to authorize the departments or authorities concerned, to make emergency procurement of provisions or materials for rescue and relief in a threatening disaster situation or disaster, or alternatively can arrange for centralise procurement of additional relief material required for relief operations (on the basis of need assessment).

### 5.17 IDRN / SDRN updation

#### SDRN (State Disaster Resource Network):

The State Disaster Resource Network (SDRN) system has three layers namely Village, Municipality and Taluka. The level specific data is collected in the standard disaster management plan format and uploaded in to the system either at taluka or district level. The centrally stored database in the server located at GSDMA, Gandhinagar can be accessed through internet portal ([http://117.239.205.164/SDRN\\_NEW/Login.aspx](http://117.239.205.164/SDRN_NEW/Login.aspx)) and GSDMA Web Site ([www.gsdma.org](http://www.gsdma.org)).

Each user of all talukas of the State has been given unique username and password through which they can perform data entry, data updation on SDRN for their Village, Taluka or City. Status reports are also generated showing the status that how many forms, records are entered on SDRN. The Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site.

#### **SDRN Online Updation Status**

##### **Village Disaster Management Plans (VDMP)**

<b>Taluka Name</b>	<b>Total Villages</b>	<b>Updated</b>	<b>Last Date of Update</b>	<b>Updated in 2020</b>
<b>Total-10</b>	<b>540</b>	<b>540</b>	<b>05-06-2020</b>	<b>Yes</b>

##### **City Disaster Management Plans (CDMP)**

<b>City Name</b>	<b>Taluka Name</b>	<b>Total City</b>	<b>Updated</b>	<b>Last Date of Update</b>	<b>2020 Updated</b>
<b>Total City -8</b>	<b>Total Taluka-7</b>	<b>8</b>	<b>8</b>	<b>11-06-2020</b>	<b>Yes</b>

##### **Taluka Disaster Management Plans (TDMP)**

<b>Taluka Name</b>	<b>Total Taluka</b>	<b>Updated</b>	<b>Last Date of Update</b>	<b>Updated in 2020</b>
<b>Total Taluka-10</b>	<b>10</b>	<b>08</b>	<b>08-06-2020</b>	<b>Yes</b>

#### **IDRN (India Disaster Resource Network):**

IDRN is a web based information system, is a platform for managing the inventory of equipments, skilled human resources and critical supplies for emergency response. The primary focus is to enable the decision makers to find answers on availability of equipments and human resources required to combat any emergency situation.

It is a nationwide district level resource database. Each user of all districts of the state has been given unique username and password through which they can perform data entry, data updation on IDRN for resources available in their district.

The IDRN network has functionality of generating multiple query options based on the specific equipment, skilled human resources and critical supplies with their location and contact details.

#### **IDRN Online Status**

<b>STATE NAME</b>	<b>DISTRICT NAME</b>	<b>Records uploaded</b>	<b>No. of Items identified</b>	
<b>Gujarat</b>	<b>Junagadh</b>	<b>Total Records = 361</b>	<b>40</b>	
<b>Last Update Month 04/2021</b>				

#### **5.18 Protocol and arrangements for VIP visits**

It is important to immediately inform VIPs and VVIPs on impending disasters and current situation during and after disasters. Appeals by VIPs can help in controlling rumours and chaos during the disaster. Visits by VIPs can lift the morale of those affected by the disaster as well as those who are involved in the response. Care should be taken that VIP visits do not interrupt rescue and life saving work. Security of VIPs will be additional responsibility of local police and Special Forces. It would be desirable to restrict media coverage of such visits, in which case the police will liaise with the government press officer to keep their number to minimum.

### **5.19 Media management / information dissemination**

Media management utilised to ensure precise communication of the impact of disaster and relief measures being taken and generate goodwill among community and other stakeholders. Ensure that the information about progress of rescue and relief is provided to media/public in an organized manner at least twice a day. Establish help lines for facilitating communication between the victims and their relatives residing outside the affected area/s. Establish Information Centers at strategic locations for providing information about persons evacuated to the relief centres/hospitals. Establish Media/Press Centre for media management and information dissemination. Ensure that the information to media/general public about the response of the State Government is released in an organized manner along with following points.

1. Broadcast programs to raise people's awareness of disaster prevention measures
2. Develop news sources in emergency situation
3. Publicize station frequency
4. Broadcast public planning meetings
5. Compile local knowledge on signs of impending disaster and share it with community
6. Broadcast emergency evacuation announcements
7. All announcements broadcast in a reassuring and calm manner

### **5.20 Documentation**

Documentation of all response/relief and recovery measures should be done with –

- Documentation of disasters and to make it available in easy accessible format
- Undertake research studies and application of outcomes in disaster management practices
- Documenting field data, experience and indigenous technological knowledge from local community
- Development of plan by using available resources like SDRN, IDRN, etc.
- Assimilate all reports and transaction of information during the disaster for easy documentation



## CHAPTER - 6

### Response measures (Multi-Hazard):

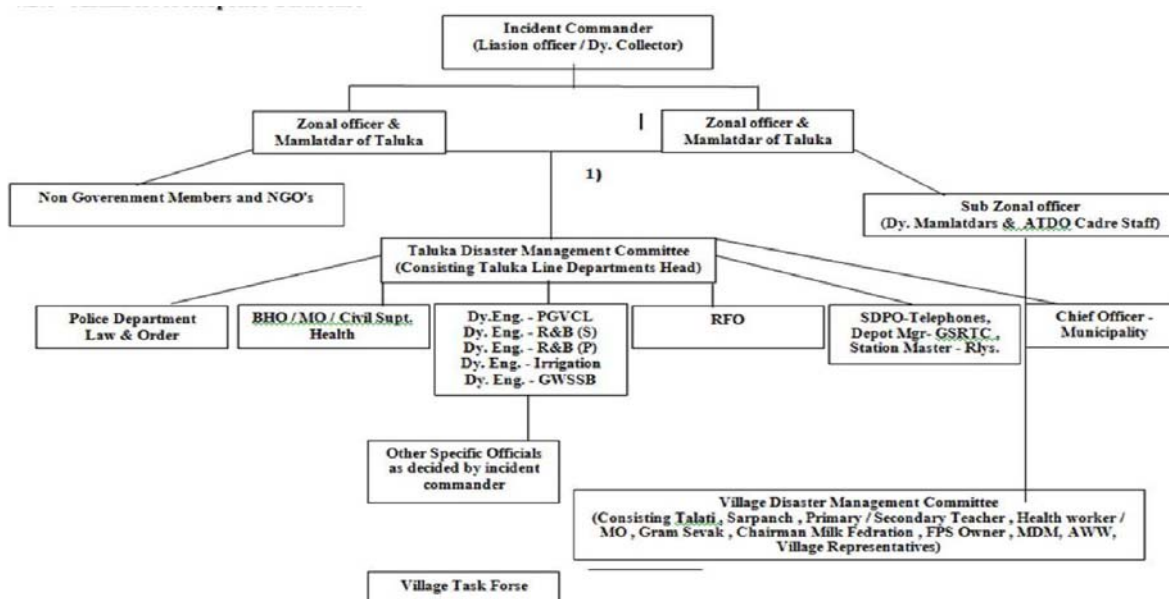
Response measures are those which are taken instantly prior to, and following, a disaster aimed at limiting injuries, loss of life and damage to property and the environment and rescuing those who are affected or likely to be affected by disaster. Response process begins as soon as it becomes apparent that a disastrous event is imminent and lasts until it is declared to be over.

Since response is conducted during periods of high stress in a highly time-constrained environment and with limited information and recourses (in majority of the cases), it is by far, the most complex of four functions of disaster management.

Response includes not only those activities that directly address the immediate needs, such as search and rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear vision about hazards, its consequences and actions that need to be taken in the event of it.

#### 6.1 Response flow chart

The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs. The State EOC, ERCs and other control rooms at the State level as well as district control rooms should be activated with full strength. The State Government may publish a notification in the official gazette, declaring such area to be disaster-affected area under GSDMA Act (Section 32 (2) (a))



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## 6.2 Warning and alert

On the receipt of warning or alert from any such agency which is competent to issue such a warning, or on the basis of reports from District Collector of the occurrence of a disaster, the response structure of the State Government will be put into operation. The Chief Secretary/Relief Commissioner will assume the role of the Chief of Operations during the emergency situation.

The details of agencies competent enough for issuing warning or alert pertaining to various types of disasters are given below;

Disaster	Agencies
Earthquakes	IMD, ISR
Floods	IMD, Irrigation Department
Cyclones	IMD
Tsunami	IMD, ISR, INCOIS
Drought	Agriculture Department
Epidemics	Health & Family Welfare Department
Industrial & Chemical Accidents	Industry, Labour & Employment Department, DISH
Fire	Fire & Emergency Services

## 6.3 District CMG meeting

The Collector & DM is responsible to hold regular CMG meetings on disaster management including government, NGOs and private sectors. The CMG Committee held various meeting and had detailed interaction with members and management of Crisis. The Junagadh District level Pre-Monsoon and CMG Meeting for all District level departmental heads along with Mamlatdars, Chief Officers and TDOs was called on 18-05-2018, chaired by Collector-Junagadh, DDO-Junagadh and Resident Additional Collector-Junagadh.

## 6.4 Activation of EOC

The disaster response is led by the District Emergency Operation Centre (EOC) under the command and control of the District Collector. It is also the central point for information gathering, processing and decision making more specifically to combat the disaster. Most of the strategic decisions are taken in this control room with regard to the management of disaster based on the information gathered and processed. The Incident Commander takes charge at the District Control Room and commands the emergency operations as per the Incident Command System organizational chart.

Emergency Operation Centre (EOC) of District is operational at Sardarbaug, Junagadh and is operational on 24x7 round the clock for 365 days in 3 shifts of 8 hrs with the help of staff deputed from local government offices. Control rooms of line departments and Taluka EOCs (located at the Office of Mamlatdar) are active from 1st June, 2014 for Monsoon Season and will be operational till 30th October, 2014. The Liaison Officers of the respective Talukas shall take charge of the Control Room. The respective Liaison Officers shall coordinate between the task group members working at disaster sites and TEOC for mobilization of resources and dissemination of instructions received from TEOC/DEOC.

## **6.5 Response planning, preparedness, assumption – Quick assessment of damages / need**

### **Response planning:**

Response planning can help mitigate the destructive effects of a disaster by ensuring timely and effective provisions of humanitarian aid to those most in need. “Time spent in disaster response planning equals time saved when a disaster occurs”. Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks.

Considering all this points, this response plan has been developed. For the first time Incident Command System (ICS) has also been introduced in response plan along with the resource inventory that is directly linked to the website. In fact, during disaster the ICS management tool will be more effective to handle the situation in proper way within limited time. The plan incorporate multi level institutional as well as Response plan mechanism at district level.

### **Preparedness:**

Preparedness measures go hand in hand for vulnerability reduction and rapid professional response to disasters and assist all the government departments to plan and prioritise preparedness activities while ensuring active community participation. Preparedness actions are to be taken before a disaster to reduce the probability of a disaster (risk reduction) or the level of damage (vulnerability reduction) expected from a possible disaster. Vulnerability reduction is given priority over a risk reduction that is preparedness.

The main objectives of various preparedness measures are: -

- i) Minimizing the loss of human lives.
- ii) Minimizing the loss of livestock.
- iii) Minimizing the loss to property and infrastructure.
- iv) Minimizing ill effects on the health of affected population.
- v) Bringing the human activities in the locality to normal condition soon after.

In situations of emergency, the District Collector will use his own discretion on the preparedness measures for facing the impending disaster.

### **Situation Assumptions:**

1. There would be a congestion in the network because of increased calls to control rooms due to panic created in the community.
2. The initial reports on damage may not give a clear picture of the extent of damage to communication network.
3. The affected site may cut off from the state control rooms and the officials on site and find difficulty in communicating to the District/State EOC.
4. Police wireless network will only be the reliable communication network till the other communication networks are fully restored.
5. Local community task forces will initiate search and rescue at residential level.
6. Spontaneous Volunteers and QRT will require coordination

7. Access to affected area will be limited
8. Some site may be accessible only through air route
9. Most of the buildings would be damaged and would not remain safe for citizens.
10. Many structures would be damaged and there would be an urgent need to evacuate.
11. There would be panic and people will gather at a place.
12. The crowds may go out of control or Riots may also take place.
13. Emergency Medical services will be required by affected population.
14. Likely outbreaks of epidemic diseases after the disaster.
15. Hospital services would be affected.
16. Existing water storage bodies will be damaged and unusable.
17. There would be an urgent need of water to assist victims in rescue operation.
18. Break down of sanitation system.
19. Contamination of water due to outflow from sewers or due to breakage of water pipelines.
20. The communication with affected area may be partially impaired.
21. The movement of relief supplies will create congestion in the transportation services.

#### **Quick assessment of damages and need:**

Various spatial data with socio-economic, housing, infrastructure and other variables that can provide a quick assessment of the risks and vulnerabilities of disasters based on which appropriate mitigation strategies can be developed. Based on primary data...

1. IC will call and activate the District Quick Response Team. Will done Quick Assessment of the S& R operations through Aerial surveys.
2. The Nodal Officer from Police will activate the Quick Response teams and will done Quick assessment of law and order situation in affected areas.
3. GWSSB nodal officer will activate their quick response teams for Quick assessment of water line damage and Quick assessment of water contamination levels and taking steps to restore clean drinking water.
3. Chief Officers, TDOs and Taluka Mamlatdars will do Quick assessment of damaged areas and areas that can be used for relief camps for the displaced population. Coordinate with the Government agencies for quick assessment of evacuation needs such as the number of people to be evacuated and mode of evacuation
4. DDDO of district will make a quick assessment of the damages and losses caused by the disaster in the affected area as regards the population, agriculture, infrastructure, livelihoods and environment.
5. DEOC will Instruct Quick Assessment Task Force to submit preliminary need and loss assessment report of the affected areas.

## **6.6 Warning dissemination**

The dissemination of warning is the most critical function in order to give early warning to the community. It has to be fast in order to give reasonable amount of time for communities to prepare for any eventuality. Due consideration has to be given to the points mentioned below before sending across the information.

1. Warning dissemination will be done to all the important stakeholders (as given below in the information dissemination format) at the Panchayat level in rural areas and Nagarpalika level in urban areas for early warning communication.
2. Making use of the fastest means to communicate the message in the most lucid manner so as to prevent spread of rumor and panic among the masses.
3. Bulk Voice SMS Service is the best means of communication to large masses without any effort and within no time. A voice recorded message from the District Magistrate from official number shall be sent to the database of numbers identified for information dissemination with the help of Mobile service providers & Telephone department.
4. DEOC will incorporate to arrange dissemination of information through various means of communication such as Radio, TV, Cable Network, and SMS about warnings to districts/areas which are likely to be hit by disasters.
5. Dist. Collector and Information Dept. will Ensure dissemination of information to remote areas by local means. They will also ensure that local TEOC help lines are opened and effectively managed for public information, guidance and rumor control.

As soon as the warning of an impending calamity is received, the EOCs at the State, District and Block levels will be on a state of alert. The Incident Commander will take charge of the EOC and oversee the dissemination of warning to the community. The District Collector will inform the District Disaster Management Committees who will alert the block and Village level DMCs and DMTs to disseminate the warning to the community.

## **6.7 Resource mobilization**

Taluka authority will try their best to contain the situation with the available local resources. However, if they find that the situation is beyond their control and the district level resource mobilization is required, they will seek the help of their superiors or call the meeting of Disaster Management Committee.

Through online SDRN and IDRN computerized and web based IT solutions can be used for resource mobilization and deployment of trained members. This decentralized system presents many advantages such as the easy availability of the resources and plans at all levels, minimum duplication and time saving and finally the visual data reports generation that assists in gap analysis and resource mobilization.

## **6.8 Seeking external help for assistance**

TEOC will inform DEOC if external help/resources are needed. District Collector will decide if any external help (out of district) is required for immediate priorities. If required, liaise with the state, national and international agencies for mobilization of additional resources and will make arrangement to avail the external helps to manage to disaster.



## **6.9 First assessment report**

DEOC instruct Quick Assessment Task Force to submit preliminary need and loss assessment report of the affected areas. Quick assessment Team will submit First Assessment Report to District Collector duly signed by Taluka Liaison Officer. DEOC will collect preliminary first assessment report from the onsite EOCs and submits district's compiled report to State EOC.

To make a first assessment report of damage, the assessment report will contain the following basic elements or activities...

1. Human and material damage
2. Resource availability and local response capacity
3. Options for relief assistance and recovery
4. Needs for national / international assistance

## **6.10 Media management / coordination / information dissemination**

### **Media management:**

The role of media (print & electronic), in informing the people and the authorities during emergencies becomes critical, especially the ways in which media can play a vital role in public awareness and preparedness through educating the public about disasters; warning of hazards; gathering and transmitting information about affected areas; alerting government officials, helping relief organizations and the public towards specific needs; and even in facilitating discussions about disaster preparedness and response. During any emergency, people seek up-to-date, reliable and detailed information. Collector office Junagadh has established an effective system of collaborating with the media during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground. A similar set up is also active at the Taluka Control room at Mamlatdar office.

### **Information dissemination and Coordination:**

Dissemination of information is the prime duty of information department in coordination with DEOC, Revenue and District Panchayat offices during any emergency. Functions of information department during Emergency are...

1. Collect correct information from authorities onsite.
2. Keep the list of persons rescued with full details.
3. Keep the list of persons missing.
4. Keep the no. of dead bodies and the locations they have been kept.
5. Keep a track of which team is positioned with location.
6. Make use of the public address system to call anyone.
7. Schedule working in short duration Evacuation & Shelter.
8. Establish Press Centre for media management and information dissemination
9. Ensure that the information to media/general public about the response of the State Government is released in an organized manner.
10. Organize media briefing twice a day at predetermined intervals.

### **6.11 Emergency Response Functions:**

(Evacuation, Search and Rescue, Cordoning the area, Traffic control, Law & order and safety measures, Dead body disposal, Carcass disposal)

Effective response planning requires realistic identification of likely response functions, assignment of specific tasks to individual response agencies, identification of equipment, supplies and personnel required by the response agencies for performing the assigned tasks. Response functions essentially outlines the strategy, resources needed, evacuation, search & rescue, etc.

#### **Evacuation:**

In many emergencies, local authorities would set up public shelters in schools, municipal buildings and places of worship. While they often provide water, food, medicine and basic sanitary facilities.

#### **Search and Rescue:**

At district level whatever help would be required during disaster that will be immediately informed to the various departments by the district collector and possible support NGOs and other line agencies in the district would be tapped up. If the District Collector thinks that it cannot cope with the disaster then he can ask help from the defence and paramilitary force.

#### **Cordoning the area:**

SDM and Police department will cordoning off affected areas for restricting entries of rail or road traffic and instruct to cordon affected areas and setting up of check posts to control entry and exit. The DSP will send instructions for the cordoning off of the area. People should not be allowed access anywhere close to the site of the disaster.

#### **Traffic control:**

The Superintendent of Police will co-ordinate the work of Traffic control and Traffic arrangements towards the disaster affected areas. Traffic cell also has responsibility for the ground transportation of personnel, supplies, and equipment and make alternate arrangements to open the roads to traffic at the earliest.

#### **Law & order and safety measures:**

Collectorate and SP office is responsible for assuring the execution of all laws and maintenance of order in the area affected by the incident. The law and order section incorporates law and order taskforce which may be created to deal with a disaster with sufficient safety measures. It will arrange law and order against theft in the disasteraffected area and co-ordinate with the search and rescue operations. It will also arrange for security at the relief camps/relief material storages. It is also responsible to maintain law and order at the time of distribution of relief material.

#### **Dead body disposal:**

The health department will immediately start the procedure for post mortem of the dead persons as per the rules. Disposal of dead bodies is to be carried to prevent the outbreak of epidemics. Arrangement should be made to issue death certificates of the deceased to the relatives.

#### **Carcass disposal:**

The animal husbandry departments with necessary equipments in case of cattle death are there in the affected areas for the disposal of carcass with a view to restoration of public life and result oriented work.

## **6.12 Humanitarian Relief and Assistance:**

[Food, Drinking Water, Medicines, Trauma care, Clothing, Other essential needs, Shelter Management, Providing helpline, Repairs and restoration of basic amenities (e.g. water, power, transport etc), Management of VIP visits]

The Indian government uses the terms “humanitarian assistance” or “disaster relief” to refer to activities that address human suffering caused by natural disasters like cyclones, droughts, earthquakes or floods. Humanitarianism lies at the heart of Indian spiritual and cultural values. Hinduism, Buddhism, Islam and Sikhism all espouse solidarity with the suffering and giving without expectations for return. The Hindu term *daan*, for example, emphasizes the selfless nature of giving. In fact, the sacred Hindu scripture Bhagavad Gita preaches that “there should be no motive in charity and there should be no aim, direct or indirect”. These spiritual traditions influence the humanitarian impulses of Indian decision makers. India conceives humanitarian assistance as “extending sympathy” to the disaster-affected. Because of India’s deep cultural tradition of giving, the population generally endorses relief efforts by the government.

UN agencies and international NGOs will be operating in the country at the time of the disaster event and will be allowed to provide humanitarian assistance to people in the affected area in coordination with the concerned Ministries/Departments and the State Government under existing protocol in place. Guidelines of the IFRC on international humanitarian assistance will be the guiding factor in facilitating external assistance. External assistance will be provided in a responsible and coordinated manner to minimise its impact on local resources as well as ensure good quality and accountability standards.

In case of large scale emergency collector will establish relief coordination centre at the airport, railway station, etc. for arrival of Search & Rescue and Medical Teams coming for humanitarian aid.

## **6.13 Reporting:**

The occurrence of disaster may be reported by the concerned monitoring authority to the District Collector by the fastest means. On the basis of reports from District Collector of the occurrence of a disaster, the response structure of the State Government will be put into operation.

### **Information management:**

Control room is a nodal centre in terms of disaster Management which performs the function of collecting and transmitting information to the appropriate places and people. Therefore Control room has to be equipped with the latest telecom communication facilities. All the important information of the district administration in case of emergency is also available in the control rooms. The control room is connected with all the line departments, collectorate, NGOs, police control room, and block control room which is connected to village task force and irrigation control room. Collector controls all the information flow through control room in the district and with the state authority.

### **Situation reports:**

All the situation reports of area, village, city or taluka received at the SDM or DEOC will be communicated to the Nodal officer, who based on the available information, if seems fit, will activate DEOC in the emergency mode.

Resident Additional Collector will report the occurrence of emergency to Collector, Relief Commissioner, GSDMA and SEOC. By receiving through Taluka Control rooms, DEOC will have constant reporting of pre and post disaster work to SEOC and GSDMA.

Village Talatis are responsible to submit situation/action taken report immediate to Mamlatdar and TDO. Mamlatdars, TDOs and Chief Officers are responsible to communicate the immediate emergency as well as updated situations to Liaison officers, SDMs and Resident Additional Collector and detail report should submit to DEOC in time manner.

Death, Casualty, Emergency & Primary reports should submit immediate with Top Priority in Primary Situation Report format developed by SEOC. ABCD, MHA, Detail Emergency update reports should submit on Daily Basis by Taluka Mamlatdar and District Panchayat to DEOC and same compiled report should reach to SEOC.

**Media release:**

The State Government has established an effective system of collaborating with the media during emergencies. At the State Emergency Operation Centre (SEOC), a special media cell has been created which is made operational during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground. A similar set up is also active at the District Emergency Operation Centre (DEOC) of collector office at district.

**6.14 Demobilization and winding up:**

An emergency plan is not complete without specific demobilization and post-incident winding up review procedures. Specific demobilization guidelines provide organized and agreed-to procedures to help facilitate and more organized and expedited return to normal operating conditions, and help to minimize costs by standing down response resources in a timely manner.

Issues to consider for demobilization include: 1. Do not release or demobilize response resources unless approved by the On-Scene Incident Commander, 2. Assign personnel to identify surplus resources and probable resource release times, 3. Establish demobilization priorities, 4. If necessary, develop a Disposal Plan for the disposal of hazardous materials or wastes, as necessary and 5. Plan for equipment repair and maintenance services, as necessary.

**(i) Documentation:**

Documentation of an emergency incident is a critical part of an emergency plan. Documentation must be specific to the incident. However, the following topics can provide guidance as to necessary documented information: 1. When/where did incident take place, 2. Was an evacuation called for, and if so, how much time was required to evacuate all personnel?, 3. Were communication methods effective?, 4. Did on-site equipment satisfy equipment needs? If not, what additional equipment was brought to the site?, 5. Did local jurisdictions assist in the emergency response? If so, did they offer suggestions for improvement?

**(ii) Success stories:**

Developing a success story requires the right questions, through the eyes of an individual or several individuals, of positive impact. The key questions and steps are as follows. 1. Provide Background Information, 2. Describe the activity, 3. Give Details of What Happened in the Activity, 4. Give the Results Achieved as a Consequence of the Activity, 5. Give a Quote from the Participant, 6. Labeling Pictures and Writing Captions.

**(iii) Lessons for future**

Each organization will provide activities undertaken and lessons learned report during any disaster response operations. The lessons learnt from the past will be utilised while updating the plan, formulating DM strategy, for future references and for training purposes.



## **CHAPTER – 7**

### **Recovery Measures:**

Recovery is defined as decisions and actions taken after a disaster with a view to “restoring or improving life and assets of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery and reconstruction (R&R) or comprehensive rehabilitation is the last step in cycle of disaster management. In addition, this is the phase of new cycle, where the opportunity to reconstruction and rehabilitation should be utilised for building a better and more safe and resilient society.

#### **7.1 General Policy Guidelines:**

A plan of recovery will help better coordination between various development agencies. Damage Assessment and Needs Assessment shall be the basis of recovery planning. Various Sectors for recovery process may be -

- Essential Services- Power, Water, Communication, Transport, Sanitation, Health
- Infrastructural: Housing, Public Building and Roads
- Livelihood: Employment, Agriculture, Cottage Industry, Shops and Establishments

Basic services such as power, water supply, sanitation, wastewater disposal etc. should be restored in shortest possible time. Alternate arrangement of water supply, temporary sanitation facilities can be sought with help of special agencies. Special arrangements for provision of essential services should be ensured. It can include creating temporary infrastructure for storage and distribution of water supply, running tankers, power supply and sanitation facilities.

The approach to re-construction and recovery is guided by the National Disaster Management Policy 2009 of which salient clauses / sections are stated in the following para.

Section 9.1.1 of the NPDM states that - the approach to the reconstruction process has to be comprehensive so as to convert adversity into opportunity. Incorporating disaster resilient features to 'build back better' will be the guiding principle. The appropriate choice of technology and project impact assessment needs to be carried out to establish that the projects contemplated do not create any side effects on the physical, socio-cultural or economic environment of the communities in the affected areas or in their neighborhood. Systems for providing psycho-social support and trauma counseling need to be developed for implementation during reconstruction and recovery phase.

Section 9.2.1 of NPDM states that - Reconstruction plans and designing of houses need to be a participatory process involving the government, affected community, NGOs and the corporate sector. After the planning process is over, while owner driven construction is a preferred option, contribution of the NGOs and corporate sector will be encouraged. Reconstruction programme will be within the confines and qualitative specifications laid down by the Government.

Section 9.3.1 states - Essential services, social infrastructure and intermediate shelters/camps will be established in the shortest possible time. For permanent reconstruction,

ideally, the work including the construction of houses must be completed within two to three years. Concerned Central Ministries/Departments and the State Governments should create dedicated project teams to speed up the reconstruction process.

Section 9.3.2 of NDMP states - that - Contingency plans for reconstruction in highly disaster prone areas need to be drawn out during the period of normalcy, which may include architectural and structural designs in consultation with the various stakeholders.

As per the section 9.5.1 of NPDM – the State governments will have to lay emphasis on the restoration of permanent livelihood of those affected by disasters and special attention to the needs of women-headed households, artisans, farmers and people belonging to marginalised and vulnerable sections.

## **7.2 Detailed damage and loss assessment**

The moment an emergency condition subsides, rapid and thorough Detailed damage and loss assessment is to be conducted to know the overall damage to critical public facilities, homes, businesses and other services within the affected area(s); and to determine whether those damages are sufficient to warrant emergency assistance.

A detailed assessment must be conducted before commencing reconstruction and rehabilitation activities. The relevant Government departments and local authorities shall initiate detailed assessment at their respective level for damages sustained in housing, industry/services, and infrastructure, agriculture, health / education assets in the affected regions. Immediate recovery can continue from a day to two months, depending upon the extent of damage.

The assessment teams are to report the following information to the Disaster Management Department in the Office of Collectorate for further action.

- |   |   |
|---|---|
| <input type="checkbox"/> Boundaries of the disaster(s).                                   | <input type="checkbox"/> Access point(s) to the disaster area(s).       |
| <input type="checkbox"/> Status of the transportation system.                             | <input type="checkbox"/> Status of communication system                 |
| <input type="checkbox"/> Disaster casualty information                                    | <input type="checkbox"/> Status of medical systems                      |
| <input type="checkbox"/> Shelter / mass care information                                  | <input type="checkbox"/> Damage to utility system                       |
| <input type="checkbox"/> Status of critical facilities                                    | <input type="checkbox"/> Status of security within the affected area(s) |
| <input type="checkbox"/> Information on the humanitarian organisations within the area(s) |   |

Conducting Detailed damage and loss assessment in the aftermath of severe incident includes, Individual damage assessment as well as Public Damage assessment which includes (but not limited to) 1. Damage to road, streets and bridges, 2. Damage to water control facilities such as drainage system, water channel etc., 3. Damage to public buildings and equipment, 4. Damage to public utilities, 5. Damage to parks and recreational sites and 6. Managing Debris.

Recovery has two phases i.e. Short term and Long term Recovery. Class I officers from various line departments are deputed as Liaison Officers for each Taluka, and they are responsible for monitoring and working with the local administration in both phases of recovery operations under the guidance of the District Collector.

## **7.3 Short-term recovery program**

Short-term recovery phase starts during the first hours and days after an emergency event. The principal objectives are to restore the necessary structural [facilities, critical systems/ infrastructure, roadways and grounds] and non-structural, (power, water, sanitation, telecommunications).

The Short-term recovery with urgent measures to be undertaken includes the following:

- a) Roads and Bridges: This covers construction of all critical roads and bridges necessary to provide connectivity with immediate effect.
- b) Drinking Water Supply: Restoration of Drinking Water supply has to be done by setting up of new hand pumps, tube wells or setting up of piped water supply in areas with no access to potable water. In case of floods, setting up of raised hand pumps is required.
- c) Electricity: Restoration of power supply is also critical to immediate recovery.
- d) Communication Network: After disasters, communication networks may be disrupted. The networks of mobile services providers have to be put back in operation at the earliest to make search and rescue easier, as well as to expedite coordinated response measures.
- e) Reconstruction & Repair of Lifeline Buildings: Lifeline buildings are those necessary to keep the administrative machinery functioning despite the damage by disaster have to be repaired on priority.
- f) Rehabilitation: In case there is a major damage from earthquake or flooding, a large segment of the population may have to be rehabilitated to new locations on a temporary basis. Communities will have to be supported with relief shelter.
- g) Mass Care/Sheltering and Housing: The management of relief shelters is continued from the response phase to the immediate recovery phase. During this period, the number of victims must be identified for whom construction of houses under Indira Aawas Yojna & Sardar Awas Yojna shall be sanctioned.
- h) Food: Supply of food in relief phase is more important. It becomes important to elicit support from various NGOs, Grain merchants and volunteers.
- i) Debris Removal and Disposal of Dead Bodies: Removal of debris or trees from transportation routes for effective rescue and relief measures.
- j) Drainage and Sewage: Drainage and sewage systems will have to be quickly re-established to decrease inundation from floods, spread of diseases and epidemics and maintaining hygiene.
- k) Health Care: First Aid and Emergency Health care has to be provided at the earliest. In case the health care centers are affected by the disaster, temporary medical relief camps need to be installed while the building is retrofitted or reconstructed. Mobile Medical Units have to be pushed into action for immediately health care close to the community.

#### **7.4 Long-term recovery program**

Long term recovery efforts must focus on redeveloping and restoring the socio-economic viability of the disaster area(s). The reconstruction phase requires a substantial commitment of time and resources by government and non-governmental organisations. Important to note here is that much of this commitment would be beyond the scope of traditional emergency management activity programmes. The activities involved would most often be the result of a catastrophic event that has caused substantial, long term damage over a very large area. These efforts include:

1. Long term reconstruction of public infrastructures and social services damaged by the disaster.
2. Re-establishment of adequate housing to replace that which has been destroyed.
3. Restoration of jobs that was lost.
4. Restoration of the economic base of the disaster area(s)

## CHAPTER – 8

### Financial Arrangements:



To ensure the long-term sustenance and permanency of the organisation funds would be generated and deployed on an ongoing basis. There are different ways to raise the fund in the State as described below.

#### 8.1 Financial resources for implementation of plan:

(According to ACT No. 53 of 2005 – the Disaster Management Act, 2005, Chapter IX, Finance, Account and Audit.) 48-Establishment of funds by the State Government:

The State Government shall immediately after notifications issued for constituting the State Authority and the District Authorities, establish for the purposes of this Act the following funds, namely :-

- a) the fund to be called the Disaster Response Fund;
- b) the fund to be called the Disaster Mitigation Fund;

##### (i) National, State and District Disaster Response Fund:

- \* The Ministry of Finance has allocated funds for strengthening Disaster Management Institutions for capacity building and response mechanisms, as per the recommendation of 14th Finance Commission.
- \* To carry out Emergency Response & Relief activities after any disaster the State Disaster Response Fund is made available to Commissioner of Relief, Revenue Department under which the Central Government will share 75% and the Govt. of Gujarat has to share 25%.
- \* To provide for relief for famine, drought, floods and other natural calamities, Response Fund are provided in the state budget under the head “2245-Relief on account of Natural Calamities”. Besides establishment charges, funds are provided for the grant of gratuitous relief in the shape of concessional supply of food, cash payment to indigent persons, cash doles to disabled supply of seed, fodder, medicines, prevention of epidemics, provision for drinking water, transport facilities for goods and test relief works as at District level.

##### (ii) National, State and District Disaster Mitigation Fund:

- \* At the National level, Prime Minister’s Relief Fund was created shortly after Independence with public contribution to provide immediate relief to people in distress for Disaster Mitigation:
  - a. Immediate financial assistance to victims and next of kin.
  - b. Assist search and rescue.
  - c. Provide Health care to the victims.
  - d. Provide Shelter, food, drinking water and sanitation.
  - e. Temporary restoration of roads, bridges, communication facility and transportation.
  - f. Immediate restoration of education and health facilities.
- \* At the state level, provisions have been made to provide immediate support to the distressed people affected by natural calamities and road, air and railways accidents under the Chief Minister’s Relief Fund for Disaster Mitigation.



**(iii) Financial sources available for different components of disaster management**

Name	Purpose	Financial Arrangements	Activities	Nodal Agency
NDRF (NCCF)	Relief Assistance	100% Central Government	Cash and kind relief	Revenue Department
SDRF (CRF)	Relief Assistance	75% Centre, 25% State	Cash and kind relief	Revenue Department
Planning Commission (14th Finance Commission)	Capacity Building	100% Centre	Training, Awareness Generation, IEC Material, Mock drills.	Revenue Department
State Fund	Capacity Building	100% State	Training, Awareness Generation, IEC Material, Mock drills.	GSDMA
Line Department Funds	Preparedness and Mitigation	Budgetary Allocation	Activities falling in purview of departments for DRR, Preparedness and Mitigation	Line Departments
District Planning Fund	Any Public works	MP and MLA aid and grants	Preparedness, Mitigation capacity building, recovery	Local Bodies, Line Departments
External Institutional Funding	Projects on DRR, Recovery, Mitigation and Preparedness	Total external or bilateral or multilateral arrangements	Infrastructure up-gradation Technological interventions and technical studies DRR projects.	Revenue Department
Donor	Any	Total Donation in cash and kind	Any	DDMA / GSDMA
CSR	Corporate	2% of Profit	Any	Charity Commissioner and Corporate
Appeal	Immediate Relief	Fully or Partially external funds	Immediate relief, reconstruction	DDMA / GSDMA

**(iv) Disaster Insurance:**

The Insurance Regulatory and Development Authority (IRDA), India has framed micro insurance regulations that allow distribution of micro insurance products in the state. The regulations cover insurance for personal accidents, health care for individual and family and assets like houses, livestock, tools and others. In states, various Ministries/ Department have their insurance schemes related to health, crops, livestock, and other which can be utilize in case of disaster. There is need to further promote more locally customized and farmer/trader friendly weather based crop/ agri-business insurance packages. Besides, insurance policies on behalf of likely in-risk population by municipal agencies, institutions/establishments or other premises can be thought of on lines of the Public Liability Insurance Act 1991 (i.e., for hazardous industries).

## CHAPTER – 9

### Maintenance of Plan:



Plan maintenance is a dynamic process of updating the plan on a periodic basis. The backbone of maintaining the plan is carrying out mock drills and updating the plan based on lessons learnt thereof. This is a method of identifying the gaps and putting in place a system to fill the same. Regular updating of stakeholder details, contact numbers and resource inventory is another inherent and essential function of plan maintenance.

#### 9.1 Authority for maintaining and reviewing the plan:

(According to ACT No. 31 of 2005 – The Disaster Management Act, 2003, Chapter IV, District Plan.) the District Plan.-

- (1) There shall be a plan for disaster management for every district of the State.
- (2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.
- (4) The District Plan shall be reviewed and updated annually.
- (5) The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Departments of the Government in the district.
- (6) The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government.
- (7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.

The Plan should be maintained and reviewed regularly, based on inputs as under:

- (a) Drills and Rehearsals
  - (b) Recommendations from all Depts. in their Annual DM Report
  - (c) Lessons learnt from Disasters in other Districts, States and countries
  - (d) Directions from GSDMA, Ministry of Home Affairs, NDMA, Government etc...
- (i) **Schedule for updation & revision of plan,**
- DDMC shall compile its learning and proposed new mechanisms for improvement in updation of plan for the capacity to deal with disasters.

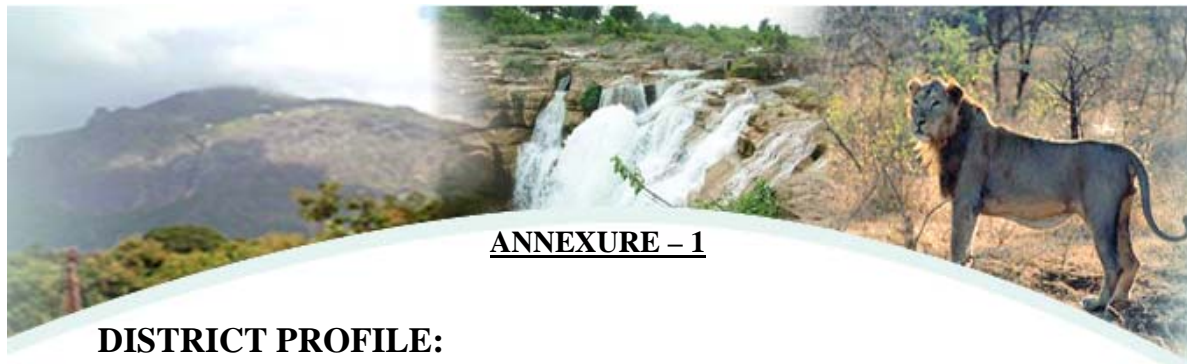
Schedule for updation of plan: Every year as a part of pre monsoon, DDMC will update plan in the month of May-June and will revise in the month of October-November every year.

#### (ii) **Schedule for Mock Drills**

The district police department, Home guards, Civil Defence personnel, Fire Service officials, SRTs, QRTs, DMCs and DMTs will undergo periodic mock drills for different disasters, coordinated by the District Collector at the district level and by the Relief Commissioner at the State level. It is mandatory to have mock-drills at least twice in a year for fire and earthquake.

# Annexure





### **DISTRICT PROFILE:**

- **History of Junagadh**

Junagadh is at south-western of Gujarat state & west-central of India. It lies near the Girnar Hills of the Kathiawar Peninsula. The many temples and mosques in the vicinity reveal the city's long and complex history. To the east are the Uperkot, an old Hindu citadel; Buddhist caves dating from the 3rd century bce; and the edicts (carved on stone) of the Mauryan emperor Ashoka. The peaks of the Girnar Hills are dotted with Jaina temples. A Rajput stronghold until the 15th century, Junagadh was captured in 1472 by Maḥmūd Begarā of Gujarat, who named it Mustafabad and built a mosque.

An impressive fort, Uperkot, located on a plateau in the middle of town, was originally built during the Mauryan dynasty by Chandragupta in 319 BCE. The fort remained in use until the 6th century, when it was covered over for 300 years, then rediscovered in 976 CE. The fort was besieged 16 times over an 800-year period. One unsuccessful siege lasted twelve years.

#### **Accession of Junagadh to India**

During the period spanning the independence and partition of India and Pakistan in 1947, the 562 princely states that had existed outside British India under British suzerainty were given a choice of acceding to either India or Pakistan or remaining outside them. Although the states were theoretically free to choose, Earl Mountbatten stated that "geographic compulsions" meant that most of them would choose India. Mountbatten took the position that only states that shared a common border with Pakistan should choose to accede to it, but he had no power to impose this point of view on the states.

On September 15, 1947, Nawab Mohammad Mahabat Khanji-III of Junagadh, a princely state located on the south-western end of Gujarat and having no common border with Pakistan, chose to accede to Pakistan ignoring Mountbatten's views, arguing that Junagadh adjoined Pakistan by sea. The rulers of two states that were subject to the suzerainty of Junagadh — Mangrol and Babariawad — reacted by declaring their independence from Junagadh and acceding to India. In response, the nawab of Junagadh militarily occupied the two states. Rulers of the other neighbouring states reacted angrily, sending troops to the Junagadh frontier, and appealed to the Government of India for assistance. A group of Junagadhi people, led by Samaldas Gandhi, formed a government-in-exile, the "Aarzi Hukumat" ("temporary government").

India believed that if Junagadh was permitted to accede to Pakistan, communal tension already simmering in Gujarat would worsen, and refused to accept the Nawab's choice of accession. The government pointed out that the state was 80% Hindu, and called for a plebiscite to decide the question of accession. India cut off supplies of fuel and coal to Junagadh, severed air and postal links, sent troops to the frontier, and occupied the principalities of Mangrol and Babariawad that had acceded to India.

On 7th November, Junagadh's court, facing collapse, invited the Government of India to take over the State's administration. The Dewan of Junagadh, Sir Shah Nawaz Bhutto, the father of the more famous Zulfikar Ali Bhutto, decided to invite the Government of India to intervene.

The Government of Pakistan protested, saying that since the Nawab had chosen to accede to Pakistan, the Dewan had no authority to negotiate a settlement with India. Also, if India could acquire Kashmir (with an overwhelming Muslim majority) because its ruler had decided to accede to India, then Pakistan could claim Junagadh.

The government of India rejected the protests of Pakistan and accepted the invitation of the Dewan to intervene. A plebiscite was conducted in February 1948, which went almost unanimously in favour of accession to India. Junagadh became a part of the Indian state of Saurashtra until 1 November 1956, when Saurashtra was part of Bombay state. In 1960, Bombay state was split into the linguistic states of Maharashtra and Gujarat, in which Junagadh was located.

Junagadh District is located on 20.05° to 21.91° North latitude and 69.97° to 70.92° east longitude. Districts came into existence from date 19/4/1949 by merger of Junagadh and surrounding Deshi Rajwadas. In these Rajwadas Junagadh, Manavadar, Mangrol, Bantwa and Sardargadh were prominent.

#### • **Introduction of Junagadh**

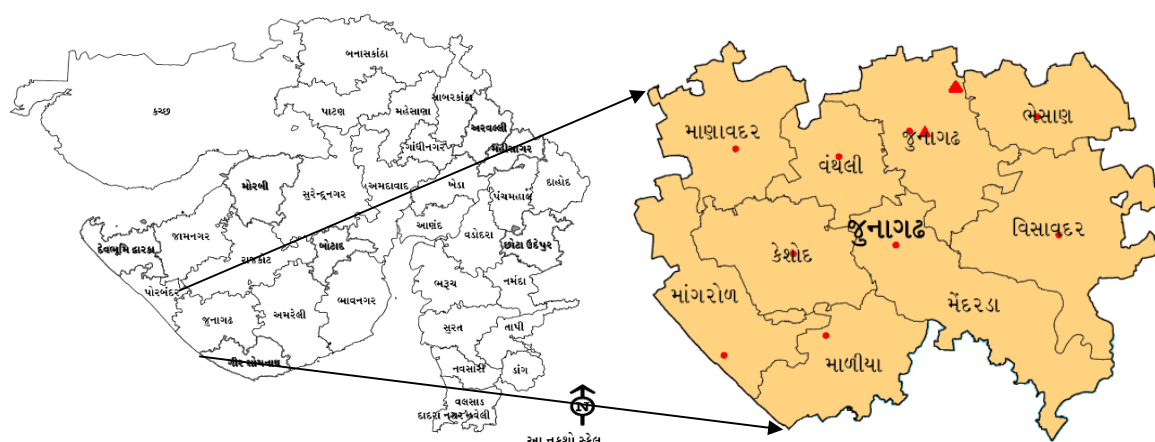
The District came into existence in 1949 with the amalgamation of Junagadh with adjoining princely States, namely Manavadar, Mangrol, Bantwa and Sardargadh. After subtraction of Porbandar district from dated 02-10-97, the area of Junagadh was 8881.8 sq.km. Again after reorganisation of district from 15th August, 2013 by splitting of Gir-Somnath District the area of remaining Junagadh District is now 5027.60 sq.km.

Geographical situation of district has, Amreli district in the East, Rajkot in the North, Porbandar district in the West and Gir-Somnath district and Arabian Sea in the South are adjoined with the border of Junagadh. District has its own natural wealth. This District is endowed by natural wealth like Gir forests, Mountainous region and through it following rivers beautified by waterfalls. The district is also famous for Asiatic Lion and lucrative attraction for foreign tourists.

As per administrative view, this district is distributed in Junagadh, Keshod, Mendarada, Visavadar and Vanthali Subdivisions. Among these 5 sub-divisions there are 10 taluka. District is at top in natural beauty with Gir's jungles (forests), mountains region and wide groups of rivers flowing through them. District is world famous for its Asiatic lions-vanraaj (king of jungle). Junagadh city and Girnar Mountain has historical as well as religious importance. Sovereign king Ashok (250 BC) during his time in that language (Which was spoken at that time) inscribed stone is seen on the way down from Girnar. This place is known as "Ashok Shilalekh". As per Archaeological department, upperkot area is extremely ancient in Junagadh. The Monuments Adichadi step well, Navaghan wells and Baudh caves are too important and ancient tourist places. After getting freedom against the British rule, Junagadh became free from its last Nawab later on. Before going to Pakistan, Nawab left some ancient articles, ornaments and furnitures, which are preserved in Darbar Hall. These items have historical as well as tourism importance.

Some other popular places like, Narsinh Mehtas Varandah (Otlo-Choro) Bhavnath Mahadev's temple, Murgikund, Damodar Kund, Girnar Mountain, Jain Derasar, Ambaji Mataji's mandir, Gorakhnath tank are present in Junagadh. Besides this, Sant Devidaas's immortal place Parab Dham at Parab Vavdi in Bhesan Taluka along with Satadhar and Kankaai Mataji's Temple are in Visavadar Taluka holds great religious importance.

• **Location of District:**



• **Administrative Set up:**

Junagadh District Sub Division Wise Setup									
Junagadh		Visavadar		Keshod		Mendarada		Vanthli	
Taluka	Vi.	Taluka	Vi.	Taluka	Vi.	Taluka	Vi.	Taluka	Vi.
Junagadh	71	Visavadar	77	Keshod	54	Mendarada	44	Vanthali	47
Junagadh City	1	Bhesan	41	Mangrol	64	Maliya	64	Manavadar	57
<b>Total Villages</b>	<b>72</b>		<b>118</b>		<b>118</b>		<b>108</b>		<b>104</b>

Vi. = No. of Villages

From the date 2/10/97 as per decision taken by Gujarat Government, Junagadh district was split into 2 districts i.e. Junagadh and Porbandar. At that time Junagadh district had 14 Talukas. Again from 15th, August 2013 the district divided into 2 district and a new district "Gir-Somnath" come into existence by Rules and Orders made by the Government of Gujarat under the Gujarat Acts of Revenue Department Notification publish in The Gujarat Government Gazette dated 13th August, 2013 with No. GHM/2013/70/M/PFR/102013/139/L.1:- In exercise of the powers conferred by section 7 of the Gujarat Land Revenue Code, 1879 (Bom. V of 1879) and in supersession of all the previous notification so far as they relate to the constitution of Junagadh district, the Government of Gujarat, with effect from the 15th August, 2013 (hereinafter referred to as "the said date:") hereby:-

- a. divided the area comprised immediately before the said date in Junagadh district, and constitutes the following two districts, namely:-
  1. Junagadh district with headquarter at Junagadh;
  2. Gir Somnath district with headquarter at Veraval; and
- b. directs that:
  - (i) Junagadh district shall consist of the following talukas as constituted immediately before the said date namely:-
    - (1) Junagadh, (2) Bhesan, (3) Keshod, (4) Maliya-Hatina, (5) Manavadar, (6) Mangrol, (7) Mendarada, (8) Vanthali, (9) Visavadar and (10) Junagadh City.

There are 10 talukas having 553 villages situated in Junagadh district. Out of them there are 530 inhabited and 23 are uninhabited villages. As per political formation, Junagadh district have 1 Municipal Corporation, 7 Municipalities and 520 Village Panchayats, out of them 10 Village Panchayats are group village panchayats.

- **Land formation**

This district is situated in the periphery of Girnar Mountain and Gir's famous forest. In the North West of Junagadh, there are low-lying Ghed area's exception levelled and fruitful land. Similarly many areas are of low lying, which are known as Ghed area. Ghed's area is known as Sorathi and Barda Ghed. During monsoon the water of rivers remains filled this area for long time due to parallel levelled land. As per Annexure-11, there are 13 Villages in Mangrol taluka, 11 Villages in Kashod Taluka and 4 Villages in Manavadar Taluka are known as Ghed Villages. Total 28 villages of these 3 Taluka are known as Ghed area Villages in Junagadh District.

This district is being agriculturally oriented. District's large portion of population is engaged in agriculture and animal rearing. In this district, Buffaloes are reared in gir forest. The Land of Junagadh is fertile and proportion of production of grains is much more, but the people have no proper planning to get higher productivity of grains.

Thus, the percentage of farmers who depend on agriculture is very less who can be considered as self reliant. The Land of District is mainly made of muddy rocks. Mainly This land can be classified in 5 types; 1. Black Soil proper for Cotton, 2. Medium Black Soil, 3. Low-lying Region Fertile Soil, 4. Chunna Patthar wali Jamin (Lime Stone Soil) and 5. Kharashwali Jamin (Salinity Soil).

The belt of land from Chorwad to Mangrol is extremely fertile, which is known as "Lily Nagher". In this District, Land utilised for farming of peanut, cotton, sugarcane, wheat, millet, etc. While Ghed's low-lying area is considered proper for Cotton, Gram & Juwar.

- **Rainfall**

During the Monsoon season rain is brought by seasonal winds. Rain lashes it in June's last week till September's last week. Normally, on an average there is 1000 to 1200 mm of rain fall reported in District. The average proportion of rain is higher in gir forest. The average consideration of rainy days is normally between 50-80 days for rains. Moreover rain also comes irregularly. In the year of 2019, Junagadh District's average Rain Fall was 998 mm.

Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Avg. Rain	1525	1081	423	1349	1105	690	959	836	842	1380	1650

\* Taluka Wise Rain Fall Details available at Annexure-6

**Average Rain Fall for Last 10 Years - Junagadh District.**

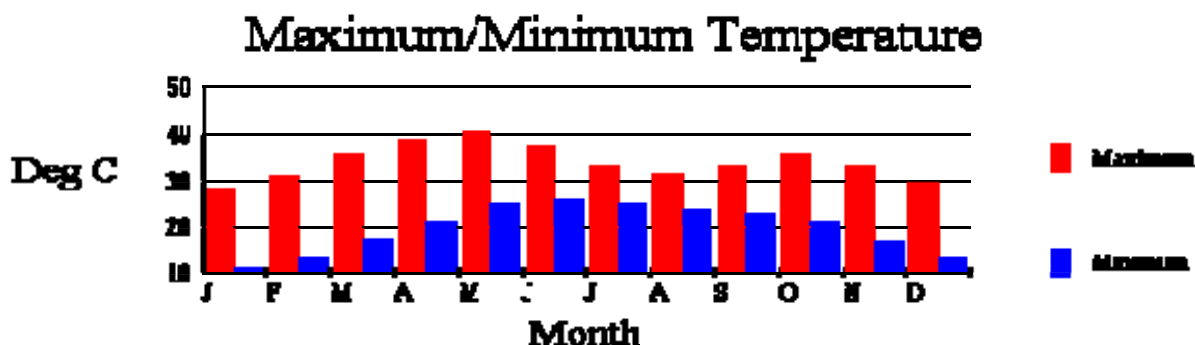


- **Rivers and Dams:**

The Most Popular Rivers of Junagadh District are (1) Uben (2) Ozhat (3) Madhuvanti (4) Vrujmi (5) Meghal and (6) Sonarakh. Besides those, some small rivers like Sabari, Sabali, Kalwo, AmbaaJal, Zhazheri, Dhrafad, Sankaroli, Netravati and Noli rivers are also flowing through district.

There are total 27 Small and Medium size Dams available under observation of Irrigation Branches. Detail of all Dams is mentioned in Annexure-12.

- **Weather and Temperature**



There is a much variety of weather shown in district. On one side there is humid weather because of river banks and on the other side there is warm and dry weather because of levelled grounds. In year 2017, the maximum temperature was recorded as 42.1 c° while the minimum temperature was recorded as 6.4 c°. The temperature difference depends upon the geographical circumferences. Generally the dry wind blows over Malia, Keshod, Bhesan and Manavadar.

- **Fishing & Port:**

Junagadh District has total 38 km. long costal belt. It starts on ending boundary of Veraval Taluka of Gir Somnath District, crosses through Chorwad of Maliya Taluka and is up to Antroli village of Mangrol Taluka ending at the boundary of porbandar district. Some good quality fishes are caught from ocean like, pamphlet Chhapari, Paplet, Palvo, Charaki, Dhol, Magra, Jinga etc. The production of Dry fish is carried out in Mangrol and Chorwad villages of Junagadh district.

Chorwad and Mangaol are some busiest fish landing centres situated on the costal belt. The details of Taluka wise list of coastal villages is attached in Annexure-7.

- **Livestock details:-**

Livestock details of the District according to 19th Livestock Census-2012 of Gujarat State.

Cattle	Buffalo	Sheep	Goat	Horse	Donkey	Camel	Dog	Duck	Poultry	Hatchery
514772	546204	40665	126840	819	403	802	35020	251	97082	79783

There are 123052 Livestock and 176865 Poultry available in District. By examining the details of Animal wealth survey 2012, we can know that the animal wealth has been increased at 4.28 %. This is due to the greater facilities is provided in this district.

There are 1 veterinary hospital, 27 dispensary, 11 primary animal care centres, and 4 mobile veterinary dispensary provides services for animal care in District. In year 2015-16, total 56840 animals were given treatment, while total 1630 male animal's castration was done.

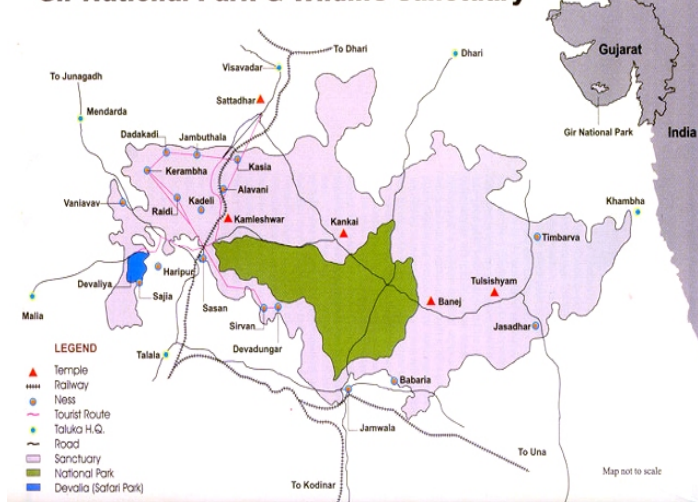


- **Forest**

Total area of the District is 8848 sq km out of that total 1230 sq km of land is covered by forest, which is known as gir forest. Main outcome through forest region is building (construction) wood like saag and bamboo. Bidi/eaves and some fruits like Custard Apple (Sitafal), Rayan, Timbru, Karmada etc. are also obtained through this area.

The Sasan Gir Lion Sanctuary is home of some 300 Asiatic lions. The sanctuary was created in 1913 to provide protection to the largest surviving groups of the Asiatic lions. It was given the status of the sanctuary in 1965.

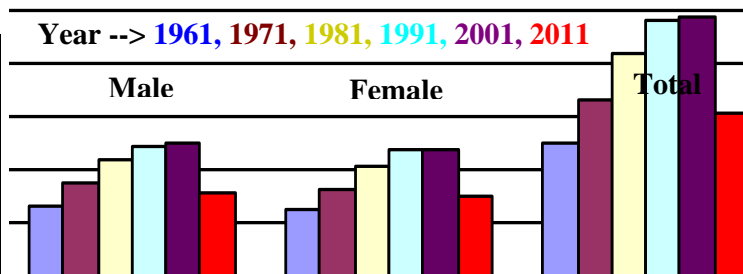
### **Gir National Park & Wildlife Sanctuary**



The Sasangir National Park accommodates the wild animals like chinkara, wild boar, striped hyena, jackal, common langur, porcupine, hare, black buck and other animals. The Kamleshwar Dam in Sasangir Wildlife Sanctuary is home to the marsh crocodile commonly seen in the river. There is also the only crocodile-breeding farm in this national park.

- **Population**

Year	Male	Female	Total
1961	638296	607347	1245643
1971	855671	801006	1656677
1981	1074605	1026104	2100709
1991	1222262	1172597	2394859
2001	1252350	1195823	2448173
2011	784330	741275	1525605



According to population survey of 2011 for Junagadh district, total population of district is 15.25 lakhs. Out of that there are 7.84 lakh males and 7.41 lakh are females. Total no of people having knowledge of words (literate) is 10.74 lakh including 6.03 lakh male and 4.71 lakh female. The percentage of literacy in District is 70.46 %. Total rural population in district is 9.52 lakh including 4.90 lakh males and 4.61 lakh females. While urban population of district is 5.73 lakh including 2.93 lakh males and 2.79 lakh females. Rural population of Junagadh district is more than a double compared to the urban population.

Total Population of Scheduled Caste in Junagadh District is 1.51 lakhs. Out of them rural population is 1.10 lakh and urban population is 0.41 lakh.

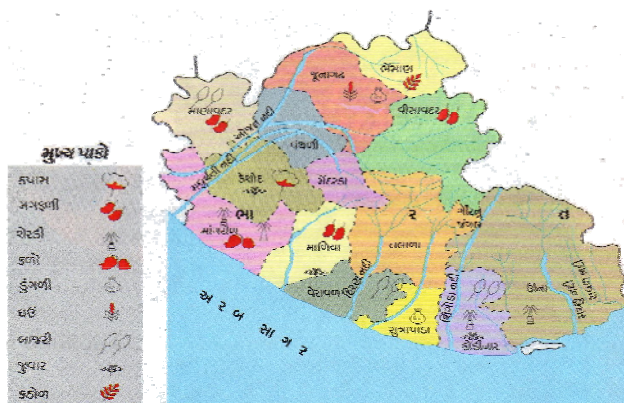
Total Population of Scheduled Tribe in Junagadh District is 37810. Out of them rural population is 25691 and urban population is 12119.

By seeing Taluka wise population register of Junagadh district, there is urban population in Manavadar, Vanthali, Junagadh, Visavadar, Keshod, Mangrol and Malia. Where as urban population is not there in Bhesan and Mendarada taluka.

As per population survey of 1991 the District had total 15 talukas. While in population survey of 2001 the district was derived in 14 Talukas and after population survey report of 2011 District is now derived in only 10 Taluka. Detail of Polulation is available at Annexure 2, 3, 4, 5.

- ## Agricultural Land and Cultivation

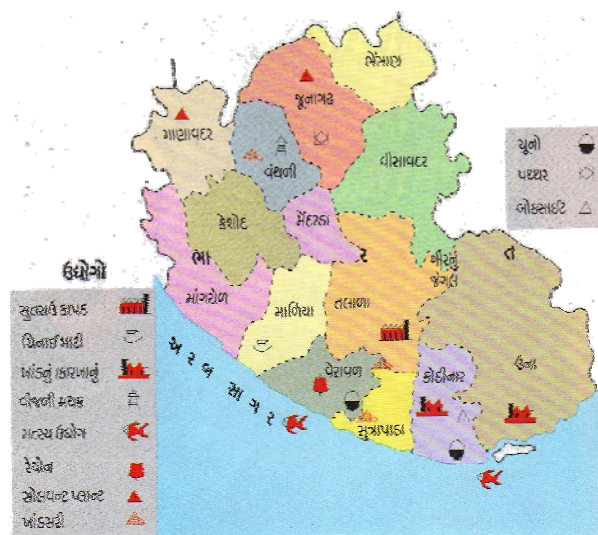
During 2015-16, agricultural available against total land was 428296 hectares. During the Kharif season main crops of this district are peanut, millet, reasame, and Juwar while in Ravi season wheat, Cotton and Millet are major crops. Large scales of Mangos "Ambas" are sawing as "Bagayat" at Vanthali, Mendarda and Maliya Taluka. The mango of this area is known as "Kesar" is famous in in all over the world. Besides this, Ravna (Jambu) can also make available before rainy (monsoon) season which can be used in Ayurvedic medicine.



Cotton is cultivating on large-scale in Manavdar Taluka. Because of that Manavdar and Bantva are known for its cottons markets. In year 2015-16 Cotton was cultivated on 81808 hectares and Groundnut was cultivated on 226519 hectares of area in the District

- ## Industry

There are over 40 medium scale industries are in Junagadh district, involved in sectors such as; edible oil, refinery plants and fish processing units. Under law of factory act 1948, total no of registered factories are 21 and due to it total 14524 persons get employment. Industries like Peanut oil's mills and soda ash factories are situated in Maliya, Bhesan, Vanthali, Manavadar, and Junagadh Taluka. There are over 6,000 Small Scale Industries operating in district at various sectors that includes food products, chemicals, electrical equipments, textiles and repairing & servicing. Maximum number of SSI units (3,018 Units) related to repairing & servicing are located in Junagadh followed by food products industry with over 503 units. Most of the small scale industries are located in Junagadh, Keshod, Manavadar and Mangrol talukas of the district.



- ## Transportation - Roads, Railway, Airport.

The Total length of National Highways passed from district is 139 km. (National Highway 8D, connecting Junagadh with Rajkot, National Highway 8E passes through the district connecting it to Bhavnagar and Amreli district. The district is also connected to Jamnagar and Porbandar through NH 8E). District has total 823 km of State highways. District has total 266 km of railway lines includes 106 km of broad gauge, which is directly connected with 27 villages and 4 Cities. There is no railway line available in Mangrol, Manavadar, Bhesan and Mendarda. The district has also a domestic airport located at Keshod connecting it to Porbandar and Mumbai.





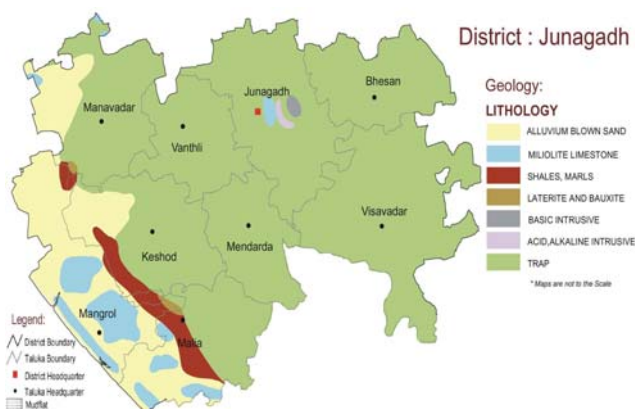
- **Electrification**

Approximately all villages covered under Jyotigram Yojna including all urban areas where electricity is supplied. In year 2014-15 total 680240 kilo watt electricity was consumed in district. Among it 48.36 % was used for industrial purpose, 5.38 % for Vari home and general lightening and 28.06 % use was for household, while 7.34 % was for other use. There are total 23 sub-stations in the district including 5 sub-stations of 220 KV, 4 substations of 132 KV and 14 substations of 66 KV each.



- **Mine Minerals**

Lime stone, Challa & Boxite are the main minerals of the district. In year of 2015-16 production of Chuna pathar was registered as 648949 Metric Tonne, where as production of Black Stonee was registered as 897531 metric tones. The general minerals like House construction stone, common sand, moram, etc were registered as 1980059 metric tones.

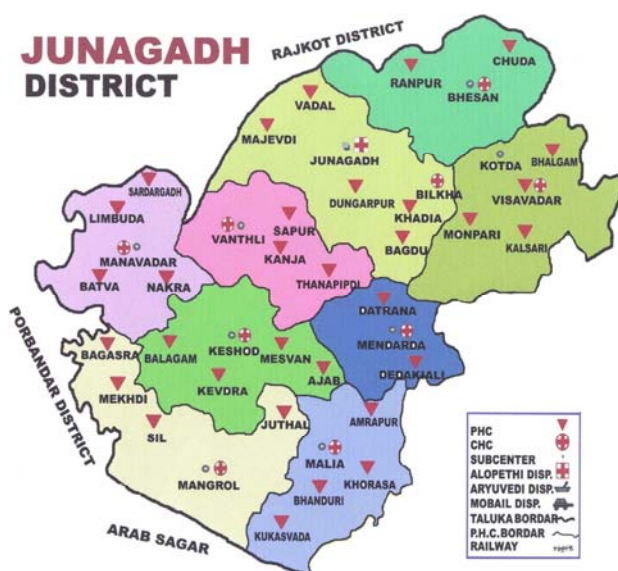


- **Educational facilities**

Total 762 Government primary schools, 230 Secondary School, 197 Higher Secondary Schools and 4 other schools are registered in District. Average 51 primary schools and 13.27 middle schools are available for each 1 lakh population. No village in District is remains without primary school except forest area. Junagadh Agricultural University offers education in agriculture, agriculture engineering and fisheries. It operates fruit, oilseed, sugarcane & wheat research Institutes with total testing centre.

- **Medical and health services**

Health sector of Junagadh has 1 Medical College, 1 Civil Hospital and 10 CHCs available in various talukas. District has total 38 running primary health centres and 6 Allopathic and 4 Mobile Dispensaries. Patients of Rural area are getting primary treatment, health and family welfare related services along with other health facilities through 5 mobile comprehensive health care units and 2 mobile dispensaries attached with all primary health centres & sub-health centres. The district has also an Ayurvedic Regional Research Centre. There are total 12 Ambulance available with 108-EMRI for at least one at each Taluka for attending Health Emergencies.



**ANNEXURE - 2****General Population of Junagadh District as per Census-2011.**

Sr	Name	House hold	Total Population	Male	Female	Literacy Rate	Working Population	Non Worker
1	Manavadar	28943	132830	68702	64128	70.85	58877	73953
2	Vanthali	20504	97189	50481	46708	69.15	47506	49683
3	Junagadh	93406	439420	225794	213626	77.01	161390	278030
4	Bhesan	16034	79712	40711	39001	67.31	37732	41980
5	Visavadar	28798	140023	71822	68201	67.00	67382	72641
6	Mendarda	14832	68531	35440	33091	70.48	32588	35943
7	Keshod	40722	194746	100239	94507	70.81	86538	108208
8	Mangrol	38058	212973	109066	103907	64.61	81813	131160
9	Malia	29705	160181	82075	78106	64.84	74347	85834
	<b>Total</b>	<b>311002</b>	<b>1525605</b>	<b>784330</b>	<b>741275</b>	<b>70.46</b>	<b>648173</b>	<b>877432</b>

**ANNEXURE - 3****Vulnerable Population of Junagadh District**

Sr	Name	Population 0-6 Years	Old Age Persons	BPL Families	Handicap Persons	Blind Persons	Total SC	Total ST
1	Manavadar	12434	9247	1627	432	100	18851	2691
2	Vanthali	9566	4547	2782	516	142	12963	1410
3	Junagadh	40950	20576	3943	866	0	37461	5344
4	Bhesan	7992	5141	2350	344	47	7254	281
5	Visavadar	13966	5729	4748	103	195	10903	1026
6	Mendarda	6521	26120	1234	40	5	7479	188
7	Keshod	19498	12223	4400	618	220	22127	8390
8	Mangrol	27846	7696	6474	624	168	21780	13405
9	Malia	18214	11523	5041	643	164	13153	5075
	<b>Total</b>	<b>156987</b>	<b>102802</b>	<b>32599</b>	<b>4186</b>	<b>1041</b>	<b>151971</b>	<b>37810</b>

**ANNEXURE - 4****Area, Population Density, Inhabited, Uninhabited Villages of Junagadh District**

Sr.	Name of Taluka	Area in Sq. Km.	Population Density	Total Villages			City
				Inhabited	Uninhabited	Total	
1	Manavadar	591.80	215	55	0	55	2
2	Vanthali	393.10	248	46	0	46	1
3	Junagadh	669.80	569	75	2	77	1
4	Bhesan	438.60	168	44	2	46	0
5	Visavadar	901.70	147	86	16	102	1
6	Mendarda	363.80	182	45	3	48	0
7	Keshod	556.60	316	53	0	53	1
8	Mangrol	572.60	330	63	0	63	1
9	Malia	539.60	269	63	0	63	1
	<b>Total</b>	<b>5027.60</b>	<b>272</b>	<b>530</b>	<b>23</b>	<b>553</b>	<b>8</b>

## **ANNEXURE - 5**

### **Bifurcation of Populated Villages as Population of Villages**

Sr.	Name of Taluka	Populated Villages	Villages Population						
			Less then 200	200 to 499	500 to 999	1000 to 1999	2000 to 4999	5000 to 9999	More then 10000
1	Manavadar	55	0	3	15	22	15	0	0
2	Vanthali	46	0	2	15	13	13	3	0
3	Junagadh	75	10	6	13	22	15	2	1
4	Bhesan	44	6	1	11	15	9	2	0
5	Visavadar	86	10	9	20	32	12	3	0
6	Mendarda	45	3	7	12	15	7	0	0
7	Keshod	53	0	1	8	24	15	5	0
8	Mangrol	63	0	0	11	23	27	2	0
9	Maliya	63	0	0	12	38	8	4	1
	<b>Total</b>	<b>530</b>	<b>29</b>	<b>29</b>	<b>117</b>	<b>204</b>	<b>121</b>	<b>21</b>	<b>2</b>

## **ANNEXURE - 6**

### **Rain Fall Detail of Junagadh District 2010-2020- Till 31/10/2020**

Sr.	Taluka	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
1	Bhesan	1158	849	365	1140	565	637	684	632	508	1173	1537
2	Junagadh Ta	1527	963	453	1530	1301	725	1241	881	738	1370	1574
3	Junagadh Ci	1527	963	453	1530	1301	725	1241	881	738	1370	1574
4	Keshod	1481	1024	373	1263	1180	474	645	703	798	1341	1602
5	Maliya	1815	1202	496	1210	1264	850	1075	994	1320	1447	1782
6	Manavadar	1471	1173	399	1384	1303	576	809	809	675	1130	1753
7	Mangrol	1869	967	455	854	1010	580	603	956	848	1015	1159
8	Mendarda	1570	1010	348	1366	1006	445	881	602	1058	1376	1521
9	Vanthali	1481	1199	467	1539	1270	770	1042	975	743	1492	1733
10	Visavadar	1349	1456	425	1669	1020	999	1365	926	995	2090	2262

## **ANNEXURE - 7**

### **Detail of Coastal Villages**

Sr	Taluka	Coastal Village	Name of Costal Villages	Popu lation	Fishing Work
1	Maliya(H)	04	Chorwad,Jujarpur,Khambhaliya,Visanvel	27991	2490
2	Mangrol	12	Khodada, Seriyaj, Arena, Shapur, Mangrol, Maktupur, Rahij, Loyej, Shil, Sangavada, Divasa, Antroli,	95218	1642
	<b>Total</b>	<b>16</b>		<b>123209</b>	<b>4132</b>

## **ANNEXURE - 8**

### **Distance from Ocean and Mean Sea Level for Village Residential Areas**

Sr.	Details	No. Villages	Taluka Covered
1	Distance from Ocean < 2 K.M.	8	2
2	Mean Sea Level < 9 Meter	24	2
3	Distance from Ocean < 15 K.M.	89	3
4	Mean Sea Level < 30 Meter	131	5
5	Distance from Ocean < 30 K.M.	193	4
6	Mean Sea Level < 100 Meter	374	8
7	Distance from Ocean < 100 K.M.	527	10

#### **• Analysis...**

- Nearest Villages from Ocean are Khodada of Mangrol and Jhunjharpur of Maliya are within 1.0 Km. from Ocean.
- Remote Villages from Ocean for Junagadh District are (Sankarola, Dholwa & Chuda) of Bhesan Taluka are 92 Km. Far from Ocean.
- Minimum Mean Sea Level of Residential area for Antroli, Shil, Mangrol (M), Navalkhodhed, Samarda, Bagasra-Ghed, Ghodadar and Hantarpur of Mangrol are on Height of 6 Meter. Where as Chorwad of Maliya Taluka is on Height of 7 Meter.
- Maximum Mean Sea Level for Residential Area for Ravani Mundiya of Visavadar Taluka is on Height of 311 Meters.
- Distance of Girnar Hills from Ocean is 66 Km. and Height (Mean Sea Level) is 887 Mtr.

## **ANNEXURE - 9**

### **(A) Details of Ambulance services available in District (Taluka Wise) :**

Sr.	Taluka	Name of Office	No. of Ambulance	Contact No.
1	Junagadh	Civil Hospital	1	2651436
		Sarvoday Blood Bank	3	2622097
		Junagadh Muni. Corporation	1	2626101/102
		C.H.C. Bilakha	1	2683955
2	Vanthali	C.H.C. Vanthali	1	222192
3	Keshod	C.H.C. Keshod	1	266339
		T.B. Hospital	1	266039
4	Maliya	C.H.C. Maliya (H)	1	222278
		Active Foundation Maliya (Hatina)	1	9879072899
5	Mendarada	C.H.C. Mendarada	1	241351
6	Visavadar	C.H.C. Visavadar	1	222201
		Brahmananddham Chaparada	1	262129/130
7	Bhesan	C.H.C. Bhesan	1	253428
8	Manavadar	C.H.C. Manavadar	1	221244
9	Mangrol	C.H.C. Mangrol	1	222010
		Shifa Hospital Mangrol	1	222728
		President KHARAVA SAMAJ	1	222258

**(B) Details of EMRI-108 Ambulance services available in District (Taluka Wise) :**

Sr.	Taluka	Location	Reg. No.	Contact
1	Junagah	Junagadh Railway Station (City-1)	GJ 18 GA 3260	7574892017
2	Junagadh	Junagadh MotiBag (City-2)	GJ 18 GA 3028	8758924305
3	Junagadh	Bilkha – Jilla Panchayat Guest House Bilkha	GJ 18 GA 3178	7433978501
4	Mendarda	Mendarada, CHC –Mendrda	GJ 18 GA 3027	8758143590
5	Visavadar	Vishavadar- CHC Vishavadar	GJ 18 GA 3262	9712901509
6	Bhesan	Bhesan- CHC Bhesan	GJ 18 GA 1937	7069386720
7	Keshod	Keshod- Taluka Panchayat Keshod	GJ 18 GA 3261	7874718065
8	Vanthali	Vanthali- Nagar Palika Shopping centre	GJ 18 GA 1940	9712768945
9	Manavadar	Manavadar- Anganvadi, Near Bus Station	GJ 18 GA 1936	8469157608
10	Mangrol	Mangrol- Taluka Blok Health Office	GJ 18 GB 0283	8469468317
11	Maliya Ha.	Gadu- Taluka Panchayat Guest House	GJ 18 GB 0220	7573026578
12	Maliya Ha.	Maliya- Taluka Panchayat Guest House	GJ 18 GA 1939	8238673940

**ANNEXURE - 10**

**(A) Taluka wise Detail of C.H.C., P.H.C. and Sub centres of district.**

Sr	Taluka	Name of C.H.C.	Name of P.H.C.	Name of Sub Centres
1	Junagadh	Bilakha	1.Dungarpur	Vijapur, Palasava, Ivanagar, Timbavadi, Jhanjarada, Joshipura
			2.Bagadu	Semarada, Badalpur, Anandpur, Khadiya
			3.Khadiya	Bandhala, Chorvadi, Mevasa, Kamari
			4.Vadal	Kerala, Chowki, Ishapur, Bamangam, Dolatpara, Khamadhro
			5.Majevadi	Goladhar, Jalansar, Makhiyala, Patrapar, Vadhavi
2	Vanthali	Vanthali	1.Kanaja	Mota Kajaliyala, Santalpur, Balot, Bantiya, Japodar, Ravani,Dhandhusar, Vanthali
			2.Thana Pipali	Bhatiya, Lushala, Tinmas, Akha, Tikar,
			3.Shapur	Koyali, Dhanfuliya, Mahobatpara (Navagam), Vadala
3.	Manavadar	Manavadar	1.Sardargadh	Khadiya, Jinjari, Sanosara, Vedava, Manavadar,
			2.Batava	Bhalgam, Nanadiya, Samega, Sitana,
			3.Limbuda	Bhindora, Sheradi, Desinga, Vadasada, Pajod
			4.Nakara	Ambaliya, Koylana, Kothariya, Sarangpipali, Kothadi, Pipalana
4	Keshod	Keshod	1.Mesvan	Chandigadh, Agatray, Mangalpur, Manekvada, Badodar, Keshod
			2.Ajab	Rangpur, Shergadh, Kaneri, Dhrabavad, Prasali,
			3.Kevadra	Sondarada, Pankhan, Bhatsimroli, Moti Ghansari, Pipali
			4.Balagam	Khirasara, Khamida, Sarod, Sutrej, Bamnasa

Sr	Taluka	Name of C.H.C.	Name of P.H.C.	Name of Sub Centres
5.	Maliya (H)	Maliya (H)	1.Bhanduri	Gadodar, Panidhra, Gadu, Moti Dhanej, Kaday, Maliya
			2.Amarapur	Tarsingada, Matarvaniya, Viradi, Zalandhar, Vadiya, Dudhala, Avaniya
		Chorwad	3.Kukasvada	Khambhaliya, Khera, Kanek, Chorvad,
			4.Khorasa	Visanvel, Shantipara, Barula, Chuladi, Jangar, Babara,
6.	Visavadar	Visavadar	1.Kalsari	Visavadar, Kalavad, Jetalvad, Vekariya, Sarsai, Dudhala, Sukhpur
			2.Moti Monpari	Nani Monpar, Lhambha, Limadhra, Baradiya, Dadar, Prempara
			3.Motakotada	Navaniya, Mangnath Pipali, Pirvad, Leriya, Khambhaliya
			4.Bhalgam	Sapar, Lundhiya, Jambuda, Chhelnaka, Shobhavadala
7.	Mangrol	Mangrol	1.Shil	Lohej, Rahij, Kankasa, Menaj, Shapur, Sheriyaj, Divasa
			2.Juthal	Arena, Sultanpur, Sheriyakhan, Rudalpur, Sakrana, Dhelana
			3.Mekhadhi	Kalej, Bamanvada, Nagichana, Ajak, Dirana, Atroli
			4.Bagasara	Miti, Osa, Hantarpur, Samarada, Sarama, Sandha
8.	Mendrada	Mendarada	1.Datrana	Araniyana, Rajesar, Samadhiyala, Alidhra, Mendarada, Manpur, Nagalpur, Gadhani, Ambala, Chandravdi, Najapur, Gundana, Motikhidhar
9.	Bhesan	Bhesan	1.Chuda	Morvada, Sankrola, Parabvavadi, Barvala, Junidhari, Gundali, Bhesan, Vandarvad, Chanaka
			2.Ranpur	Khambhaliya, Bamangadh, Mendpara, Kariya, Chhodvadi

**(B) Detail of Allopathic Dispensaries of District:**

Sr. No	Location of Allopathic Dispensaries
1	Allopathic Dispensary, (Male), Chorvad, Ta- Maliya [288532, 9825798872 ]
2.	Allopathic Dispensary, (Female), Chorvad, Ta-Maliya [288339, 9879297527]
3.	Allopathic Dispensary, Bamnasa, Ta- Keshod [99255 36736 ]
4.	Allopathic Dispensary, Kathrota, Ta- Junagadh [94280 88774 ]
5.	Allopathic Dispensary, Vekari, Ta- Manavadar
6.	Allopathic Dispensary, Chandavana- Ta- Mangrol [92281 77974 ]

**(C) Detail of Mobile Dispensaries of District.**

Sr. No	Location of Mobile Dispensaries
1	Mobile Comprehensive Health care unit, Junagadh. - 9925166811
2.	Mobile Comprehensive Health care unit, Sasan, Ta- Mendarda. - 9727702673
3.	Mobile Comprehensive Health care unit, Kalsari, Ta- Visavadar.-9879428434
4.	Mobile Comprehensive Health care unit, Mangrol. - 9879877122



## **ANNEXURE - 11**

### **Detail of GHED Villages and Contacts.**

Sr	Taluka	GHED Villages	Sarpanch Name	Contact	Talati Name	Contact	Principal Name	Contact
1	Keshod	Akhodad	Kantaben B. Bheda	7359578236	Mayank Kaneria	8758868917	Sutar Silubhai Kanji	9979948312
2	Keshod	Balagam	Sukhdev Chauhan	9913505050	Ramesh Karangiya	8849099899	Binaben S. Sorathiya	9824554254
3	Keshod	Bamnasa	K.D.Nandaniya	9979713043	P.K. Nandaniya	9724424344	Mahendra Nandaniya	9429515498
4	Keshod	Madhada	Manjuben D. Ozada	9624822943	K.V. Solanki	7698819590	Jayaben R. Bhalani	9723593391
5	Keshod	Muliyasa	B.V.Vala	9924351652	K.V. Solanki	7698819590	Manojbhai Bhuriya	9904119818
6	Keshod	Panchala	Pravina Chudasma	9723226108	P.D. Gareja	9979759235	Borkhatriya Naran R	9909059543
7	Keshod	Sarod	Manjuben Rajatiya	9909394880	K.V. Solanki	7698819590	Naranbhai Solanki	9574068368
8	Keshod	Sutrej	Raniben H. Sutreja	8469389998	Pathakbhai	9974163686	Parmarbhai	9909059789
9	Manavadar	Ambaliya	Naran R. Bheda	9879927090	D.R. Karangiya	9879393698	Dineshbhai Marsoniya	9925174163
10	Manavadar	Koyalana	Hansaben Maradiya	9427228276	Kisor Bhadraka	9978706406	Mohanbhai Solanki	9427024858
11	Manavadar	Matiyana	R.R. Borkhatriya	9904266011	Divyes Gareja	9429763864	Batuk Solanki	9904823205
12	Manavadar	Padaradi	L.V. Jora	9913372114	J.M. Shah	8141814042	Hajabhai R.Bharai	9429778999
13	Mangrol	Bagasara Ghed	Chavada Madhavji	9725875721	M.D. Bhuva	9825900516	Karshanbhai Timba	9979364529
14	Mangrol	Bhathrot	B.R. Vadhiya	7096398753	Bharaibhai	9879999173	Zala Vinodbhai H.	9427502477
15	Mangrol	Fulrama	M.P. Kinderkhadiya	9879966367	G. J. Gadhavi	9898898918	Nandaniya Pravin	8758661245
16	Mangrol	Ghodadar	Popatbhai Sagarka	9558464626	Sagarbhai Gorfad	9909303630	Rambhai A. Bheda	9925795204
17	Mangrol	Hantarpur	Vinzabhai Odedra	9998411195	Muchhalbhai	9978230831	Vala Arjanbhai B.	9979022219
18	Mangrol	Langad	Rasila R. Mokariya	9624042874	Gadhavibhai	7573986592	Jigneshbhai	9712987108
19	Mangrol	Mekhadi	Champaben J. Jadav	9824671868	Sagarbhai Gorfad	9909303630	Madhak Nileshbhai	9033728479
20	Mangrol	Osa Ghed	Ajuben Chudasama	9924007680	Sureshdan Gadhavi	9898898918	Daki Rajeshkumra	7622809599
21	Mangrol	Samarda	Kamlaben Bhutiya	9724057335	Y. K. Gujarati	9824188586	Kamlesh Chudasama	9925555285
22	Mangrol	Sandha	Dudhiben L. Zala	9879145483	Y. K. Gujarati	9824188586	Sukhanandi Amrutlal	9725855735
23	Mangrol	Sarama	Viliben R. Vadhiya	9974430051	K.P. Vadher	7573986672	Dabhi Jayaben P.	9714587065
24	Mangrol	Thalli	Manjuben Keshvala	9724747319	Gadhiyabhai	7017688042	Pithiya Maldebhai H.	9925727751

**ANNEXURE - 12****Details of Minor & Medium Irrigation DAMs with Villages Located Under Catchments and Down Stream Area...**

Sr	Taluka	Name of DAM / Scheme	Place of DAM	Type of DAM	Longitude	Latitude	Height of DAM (Mtr.)	Total Door	Flow Capacity (Cusecs)	Wire less	Catchments & Down Stream Are Villages
1	Mendarada	Madhuvanti	Kenidipur	Medium	70.48	21.22	15.54	-	750.000	Yes	[Amargadh, Mendarada, Alidhara, Kenedipur, Babar Trith, Nani Khodiyar, Moti Khodiyar, Ambala, Mithapur of Mendarada], [Bandhada, Gadoi, Kanazadi, Mota Kajaliyala, Tinmas, Bhatiya, Bodaka, Vaspada of Vanthali]
2	Mendarada	Chandravadi	Chandravadi	Small	70.44	21.17		-		No	Ambalgadh, Tarsingada, Matarvaniya of Maliya
3	Mendarada	Ratada		Small				-		No	Rajavad, Ambala of Mendarada
4	Maliya	Vrajami	Amarapur	Medium	70.41	21.13	9.40	9	1175.000	Yes	Dudhala, Itala, Kaday, Vandarvad, Vadiya of Maliya
5	Maliya	Lachhadi	Lachhadi	Small	70.41	21.01		-		No	Pipalav, Achhidra, Chhapari, Deda of Maliya
6	Maliya	Ambakui	Ladudi	Small	70.38	20.99		-		No	Ladudi, Dhrabavad of Maliya
7	Manavadar	Bantwa Kharo	Bantwa	Small	70.13	21.45	2.45	16		Yes	Manavadar
8	Bhesan	Mota Gujarिया	Mota Gujarिया	Medium	70.74	21.45	7.25	-	1320.000	Yes	Mota Gujarिया of Bhesan & Kotada of Visavadar
9	Bhesan	Uben	Bhat Gam	Medium	70.63	21.57	7.00	-	1550.000	Yes	[Bhiyad, Choki, Zalansar, Kerala, Majevadi, Vadhavi, Valasimadi, Taliyadhar, Vandiya of Junagadh], [Dhandhusar, Vanthali, Balot, Sukhpur of Vanthali]
10	Bhesan	Galath	Galath	Medium	70.77	21.54	3.45	-	152.000	No	Bhesan
11	Bhesan	Pasavada	Pasavala	Small	70.61	21.52		-		No	Kariya, Pasvada, Mendpara, Visal-Hadamatiya, Akala, Choki of Bhesan
12	Bhesan	Chhodvadi	Chhodvadi	Small	70.65	21.47		-		No	Mandlikpur, Bandhala of Bhesan
13	Junagadh	Hasnapur	Dervan	Medium	70.51	21.54	10.37	-	417.000	Yes	Dervan, Galiyavad, Sabalpur, Sargvada, Vadal, Virpur, Bamangam

Sr	Taluka	Name of DAM / Scheme	Place of DAM	Type of DAM	Longitude	Latitude	Height of DAM (Mtr.)	Total Door	Flow Capacity (Cusecs)	Wire less	Catchments & Down Stream Are Villages
14	Junagadh	Ozat -2	Badalpur	Medium	70.57	21.34	5.00	25	14890.000	Yes	[Bela, Rameshwar, Mevasa of Junagadh], [Vanthali, Kanza, Raypur of Vanthali]
15	Junagadh	Uben Viyar	Kerala	Medium	70.47	21.59	1.07	-	3143.000		[Kerala, Zalansar, Majevasi, Valasimadi, Vanandiya, Taliyadhar of Junagadh], [Balot of Vanthali]
16	Junagadh	Ozat Viyar	Kerala	Medium	70.51	21.36	1.37	-	3681.000	No	Anandpur, Sukhpur, Raypur, Navagar of Junagadh], Mendarada, Ganthila, Vanthali, Manavadar, Keshod, Mangrol
17	Junagadh	Baliyavad	Baliyavad	Medium	70.55	21.55		-		No	Baliyavad
18	Junagadh	Ravat Sagar	Bilkha	Small	70.65	21.65		-		No	Bhagam, Bilkha
19	Vanthali	Ozat Viyar	Vanthali	Medium	70.31	21.45	2.50	12	7170.000	Yes	Vanthali, Kanza, Akha, Tikar of Vanthali], [Piplana of Manavadar], [Jonpur of Keshod]
20	Vanthali	Ozat Viyar	Shapur	Medium	70.36	21.43	3.00	23	10581.000	Yes	Vanthali, Shapur, Nana Kajaliyala, Kanaza of Vanthali
21	Visavadar	Dhrafad	Sarsai	Medium	70.69	21.3	6.50	11	3073.000	Yes	Sarsai, Chaparada, Bela, Khambhaliya of Visavadar
22	Visavadar	Prempara	Prempara	Medium	70.7	21.25	7.00	-	158.000	No	Prempara of Visavadar
23	Visavadar	Magharadi	Haripur	Medium	70.61	21.25	10.00	-	309.000	No	Haripur, Ratang, Dadar, Shetrunj Vadala, Miyavadala, Limdhra of Visavadar
24	Visavadar	Zanzeshri	Mahudi	Medium	70.8	21.35	9.81	-	935.000	Yes	Dhebar, Sukhpur, Mahudi, Desaiwadala, Ishwariya, Khambhaliya, Rupavati, Vajadi of Visavadar.
25	Visavadar	Ambajal	Jambudi	Medium	70.72	21.24	10.51	4	1030.000	Yes	[Chaparda, Navi Chavand, Khijadiya of Visavadar], [Thumbala, Mevasa, Bela, Rameshwar, Badalpur of Junagadh], [Vadala of Vanthali], [Prempura of Visavadar]
26	Visavadar	Vekariya	Vekariya	Small	70.91	21.28		-		No	Kathrota, Malsika, Dhari, Prempura
27	Visavadar	Sonaradi	Bhatt vavadi	Small	70.90	21.25		-		No	Bhatt Vavadi, Kadaya

**ANNEXURE - 13****Resources Provided by Govt. at Various Levels.****(A) Life Jackets / Life Buoy / Ropes / Generators**

Sr.	Name of Taluka	Life Saving Jacket	Life Buoy	200 Feet Ropes	100 Feet Ropes	Generator
1	SDM- Junagadh	-	-	-	-	1
2	SDM- Keshod	-	-	-	-	1
3	Mamlatdar-Maliya	20	-	2	4	1
4	Mamlatdar-Mangrol	50	30	5	10	1
5	Mamlatdar-Vanthali	40	20	4	8	1
6	Mamlatdar-Keshod	30	30	3	6	1
7	Mamlatdar-Junagadh	18	18	1	2	1
8	Mamlatdar-Manavadar	20	20	2	4	1
9	Mamlatdar-Bhesan	-	-	-	-	1
10	Mamlatdar-Mendarada	-	-	-	-	1
11	Mamlatdar-Visavadar	-	-	-	-	1
12	Municipal Corporation	50	50	5	10	-
	<b>Total</b>	<b>228</b>	<b>168</b>	<b>22</b>	<b>44</b>	<b>11</b>

**(B) Fire Fighter / Water Browsers / Boat / De-Watering Pump / Emergency Light Details**

Sr	Name of ULB / Nagar Palika / Corporation	Fire Fighter	Water Browser	Boat	De Watering Pump	Emergency Lighting System	Motorcycle Water Mist
1	Municipal Corporation, Fire Branch, Junagadh	2	2	3	-	5	3
2	Bantwa Nagar Palika	1	-	-	-	2	-
3	Chorwad Nagarpalika	1	-	-	-	2	-
4	Keshod Nagar Palika	1	1	-	-	2	1
5	Manavadar Nagar Palika	2	1	-	-	2	1
6	Mangrol Nagar Palika	1	1	-	2	2	1
7	Vanthali Nagar Palika	-	-	-	-	2	-
8	Visavadar Nagar Palika	-	-	-	-	2	-
9	DEOC-Collectorate, JND	-	-	1	-	2	-
	<b>Total</b>	<b>8</b>	<b>5</b>	<b>4</b>	<b>2</b>	<b>21</b>	<b>6</b>

#### **ANNEXURE - 14**

##### **Rain Gauge Machines available each Taluka.**

<b>Sr.</b>	<b>Name of Taluka</b>	<b>Type of Rain Gauge</b>	<b>Place / Office</b>
1	Junagadh	Simple Measure	Mamlatdar Office, Junagadh
2	Junagadh	Automatic	Weather Station, Agriculture University, Junagadh.
3	Vanthali	Simple Measure	Mamlatdar Office, Vanthali.
4	Manavadar	Simple Measure	Mamlatdar Office, Manavadar.
5	Bhesan	Simple Measure	Mamlatdar Office, Bhesan.
6	Visavadar	Simple Measure	Mamlatdar Office, Visavadar.
7	Mendarada	Simple Measure	Mamlatdar Office, Mendarada
8	Maliya Hatina	Simple Measure	Mamlatdar Office, Maliya Hatina.
9	Keshod	Simple Measure	Mamlatdar Office, Keshod.
10	Mangrol	Simple Measure	ICDS Office, Nr. Mamlatdar Office, Mangrol.

#### **ANNEXURE - 15**

##### **Latitude - Longitude and Distance of Taluka Hq. and City Places.**

<b>Sr.</b>	<b>Name of Taluka</b>	<b>North Latitude</b>	<b>East Longitude</b>	<b>Distance from District HQ. in (Km.)</b>	<b>Distance from Ocen in (Km.)</b>
1	Bhesan	21.55	70.70	35	80
2	Junagadh Corporation	21.52	70.44	00	58
3	Keshod (M)	21.30	70.25	37	27
4	Malia	21.15	70.30	58	19
5	Chorvad (M)	21.02	70.23	72	2.5
6	Manavadar (M)	21.49	70.12	37	32
7	Bantwa (M)	21.48	70.07	44	26
8	Mangrol (M)	21.12	70.11	63	3
9	Mendarda	21.31	70.44	26	42
10	Vanthali (M)	21.47	70.33	15	46
11	Visavadar (M)	21.34	70.75	44	60

## **ANNEXURE - 16**

### **List of Chemicals and their Antidotes**

<b>Sr.</b>	<b>Chemicals</b>	<b>Antidotes</b>
1	Acid & Sulphur Oxide	Sodium Hydro- Carbonate (4% Conc.) Milk, Lime Juice, Milk of Magnesia.
2	Ammonia	Skin: Wash with Lactic Acid, Apply soframycin. Eye: Benoxynate Novacin-0.4% Conc. Throat : Smelling Ethanol or Ether
3	Benzene, Zylene, Toluen	Wash the skin area plenty of water if affected. Fresh air / Oxygen, 0.1 mg/kg slowly through injection rest in bed. Don't apply Epinefrin, Ifridin etc. Don't apply milk, vegetable oil or alcohol.
4	Bleaching Solution	Milk, Ice cream, eggs, milk of magnesia, aluminium hydroxide gel. Do not give acid antidotes.
5	Boric acid and boron derivatives	Epicake solution and activated charcoal. If vomited give 5% dextrose through injection.
6	Bromates or Cosmetics	Sodium thio sulphate 1ml/ kg 10% solution through injection.
7	Cadmium	Calcium dysodium editate through injection.
8	Carbon monoxide	Pure oxygen through mask. 20% mennytole (1gm/ kg) prednisolon 1 mg/kg through injection.
9	Cyanides and thio cynates insecticides	Methelene blue or kelocynere injection. If go through respiration smelling amale nitrite (3% solution) and sodium thio sulphate (25% solution) through injection.
10	DDT ( Helogenated Insecticides)	Epicake syrup, Activated charcoal, saline cathartic diazepam (10 mg slowly through injection, wash the skin through water and soap). Give pure oxygen if problem in respiration.
11	Di- chloro methane	Hydrocortisone (200mg at every 4 hrs.) Aspirin and if pneumonia gives antibiotics.
12	Ethanol	2 gm sodium bi carbonate in 250ml water. Diazepam 10mg through injection. I injury in eye or skin wash plenty of water.
13	Heavy metal compounds	Activated carbon.
14	Hydrogen sulphide, others sulphides and Marcaptans.	Put the patients at clean air or pure oxygen. Smelling the drops or Ether or Ethanol. Amyl nitrite or Sodium Nitrite, pyridoxine 25mg/ kg or 10% Urea 1 gm/ kg through injection.
15	Iodine & its compounds	Milk, epinefin, 1% sodium thio sulphate solution 100ml by oral.
16	Irons salts	Concentrative dyferoxemine therapy.
17	Magnesium Salts	Calcium gluconate 10% solution 1ml/kg through injection.
18	Manganese	Calcium editate
19	Naphthalene	Keep the urinal Alkaline by giving the Sodium bicarbonate at every four hour. Furosemide 1 ml/ kg in liquid.
20	Nitrogen Oxide	Prednision or prednisolon 5 mg at every 6 hours.
21	Phosphours, Phosgene and phophide	Calcium gluconate 10% of 10 ml through injection, 5% glucose in water, travesty (10% invert sugar) through injection.
22	Potassium permanganate	Hot milk, methelene blue (1% solution), ascorbic acid (5% solution)
23	Silica and asbestoses dust	Dust level should be minimize, use airline respirator, dust collector and local ventilation.
24	Tobacco and Nicotine	Do vomiting, Etropin (full dose), if problem in respiration give pure oxygen.

## **ANNEXURE – 17**

### **Action Plan for Earthquake:**

Action Plan for Earthquake covers all phases of earthquake management right from mitigation, preparedness, emergency response, relief to recovery.

### **Earthquake**

An earthquake is a series of vibrations on the earth's surface caused by the generation of elastic (seismic) waves due to sudden rupture within the earth during release of accumulated strain energy. The point on the fault where slip starts is the Focus or Hypocenter and the point vertically above this on the surface of the Earth is the Epicentre. The depth of focus from the epicentre, called as Focal Depth, is an important parameter in determining the damaging potential of an earthquake. Distance from epicentre to any point of interest is called epicentre distance.

### **Earthquake Measurement**

Magnitude is a measure of amount of energy released in an earthquake. It is most commonly measured on Richter scale. The earthquake magnitude is determined by use of a seismograph, an instrument that continuously records ground vibrations. An increase of one unit represents an increase of ground shaking by ten times and energy released by thirty two times. Generally, earthquakes of magnitude greater than 5 cause damages while major earthquakes measure 7 or more on Richter scale.

### **Earthquake Preparedness & Capacity Building:**

1. Ensure an updated database of critical resources (equipments, life saving facilities, trained personnel, etc.) available in the district is in place.
2. Ensure that local authorities in the district are involved in developing their own earthquake management plans.
3. Ensure that District EOC is fully functional and communication systems are in order.
4. Ensure that open and safe places in the district are identified for mass evacuation.
5. Ensure that site for helipad is identified at key locations in the district.

### **Earthquake Recovery**

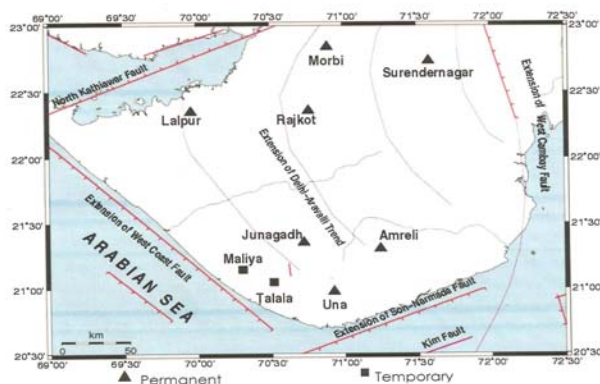
Detailed Damage and Need Assessment must be conducted before commencing reconstruction and rehabilitation activities. The primary objective of post earthquake damage assessment and need analysis is to provide a clear, concise picture of post disaster situation, to identify damage caused to different sector and to develop strategies for rehabilitation, reconstruction and recovery.

### **Repair and Restoration**

Respective departments should carry out timely repair and restoration of the related infrastructure, facilities, services, etc. This shall aid in quickly resuming the essential services they provide. GoG shall coordinate with national and international NGOs, donor agencies and other government bodies to prioritise restoration of critical infrastructure.

### **Activation of District and Local Level Control Rooms**

At district level, nodal centre for coordination and communication is District Emergency Operation Centre (DEOC). DEOC and TEOCs will get fully activated in case of L1 emergency.



## **ANNEXURE – 18**

### **Action Plan for Heatwave:**

Heat-wave is a condition of atmospheric temperature that leads to physiological stress, which sometimes can claim human life. Heat-wave is defined as the condition where maximum temperature at a grid point is 3°C or more than the normal temperature, consecutively for 3 days or more. World Meteorological Organization defines a heat wave as five or more consecutive days during which the daily maximum temperature exceeds the average maximum temperature by five degrees Celsius. If the maximum temperature of any place continues to be more than 45° C consecutively for two days, it is called a heat wave condition.

### **Key strategies**

The heat-wave action plan is intended to mobilize individuals and communities to help protect their neighbours, friends, relatives, and themselves against avoidable health problems during spells of very hot weather. Broadcast media and alerting agencies may also find this plan useful. Severe and extended heat-waves can also cause disruption to general, social and economic services. For this reason, Government agencies will have a critical role to play in preparing and responding to heat-waves at a local level, working closely with health and other related departments on long term strategic plan.

- ☐ Establish Early Warning System and Inter-Agency Coordination to alert residents on predicted high and extreme temperatures. Who will do what, when, and how is made clear to individuals and units of key departments, especially for health.
- ☐ Capacity building / training programme for health care professionals at local level to recognize and respond to heat-related illnesses, particularly during extreme heat events. These training programmes should focus on medical officers, paramedical staff and community health staff so that they can effectively prevent and manage heat-related medical issues to reduce mortality and morbidity.
- ☐ Public Awareness and community outreach Disseminating public awareness messages on how to protect against the extreme heat-wave through print, electronic and social media and Information, Education and Communication (IEC) materials such as pamphlets, posters and advertisements and Television Commercials (TVCs) on Do's and Don'ts and treatment measures for heat related illnesses.
- ☐ Collaboration with non government and civil society: Collaboration with non-governmental organizations and civil society organizations to improve bus stands, building temporary shelters, wherever necessary, improved water delivery systems in public areas and other innovative measures to tackle Heat wave conditions.

### **Identification of Color Signals for Heat Alert:**

<b>Red Alert (Severe Condition)</b>	<b>Extreme Heat Alert for the Day</b>	<b>Normal Maximum Temp increase 6° C to more</b>
<b>Orange Alert (Moderate Condition)</b>	<b>Heat Alert Day</b>	<b>Normal Maximum Temp increase 4° C to 5° C</b>
<b>Yellow Alert (Heat-wave Warning)</b>	<b>Hot Day</b>	<b>Nearby Normal Maximum Temp.</b>
<b>White (Normal)</b>	<b>Normal Day</b>	<b>Below Normal Maximum Temp.</b>



## **ANNEXURE – 19**

### **Action Plan for Cyclone:**

A long coastline of about 1600 km of flat coastal terrain, shallow continental shelf, high population density, geographical location and physiological features of its coastal areas makes Gujarat, extremely vulnerable to cyclones and its associated hazards like storm, high velocity wind and heavy rains.

Cyclones are huge revolving storms caused by winds blowing around a central area of low atmospheric pressure. In the northern hemisphere, cyclones are called hurricanes or typhoons and their winds blow in an anti-clockwise circle. In the southern hemisphere, these tropical storms are known as cyclones, whose winds blow in a clockwise circle.

### **Familiarization with terminology – cyclone**

<b>Sr.</b>	<b>Types</b>	<b>Wind speed in the center (km/hour)</b>
1	Low pressure area	Less than 31 kmph
2	Depression	31-51 kmph
3	Deep Depression	52-62 kmph
4	Cyclonic storm	63-87 kmph
5	Severe Cyclonic storm	88-117 kmph
6	Very severe Cyclonic storm	118-221 kmph
7	Super Cyclonic storm	More than 222 kmph

### **Cyclone Forecasting and Warning**

In case of cyclones, 72 hours advance warning of various levels of certainty are provided by the IMD. This system is well established and the Gujarat State EOC and ERCs gear up emergency operations soon after the first warning is received.

### **Cyclone Alert**

It is issued at least 48 hours before the commencement of the bad weather when the cyclone is located beyond 500 km from the coast. It is issued every three hours.

### **Cyclone Warning**

It is issued at least 24 hours before the commencement of the bad weather when the cyclone is located within 500 km from the coast. Information about the most likely time/place of landfall is indicated in the bulletin. Confidence in estimation increases as the cyclone comes closer to the coast

### **Cyclone Response**

Response includes not only those activities that directly address the immediate needs, such as rescue, first aid and shelters, but also includes systems developed to coordinate and support such efforts. For effective response, all the stakeholders need to have a clear perception/vision about hazards, its consequences and actions that need to be taken in the event of it.

The Revenue Department of the State is the Nodal Department for controlling, monitoring and directing measures for organizing rescue, relief and rehabilitation. All other concerned line departments should extend full cooperation in all matters pertaining to the response management of the disaster whenever it occurs.

## **ANNEXURE – 20**

### **Action Plan for Fire:**

The primary role of fire services has been to attend to fire incidents. Besides fire fighting, fire department also attends to other emergencies such as building collapse, road traffic accidents, human and animal rescue etc., and other special service calls. Some fire services also attend medical emergencies for transportation of casualties through ambulances maintained by them.

Fire Starts when a flammable/combustible material is exposed to a source of heat in collaboration with a sufficient quantity of oxygen. Fire can be extinguished by removing any one of the elements of the fire triangle. Fire can be natural or man-made.



**Triangle of fire**



**Types of fire**

### **TYPES OF FIRES – A, B, & C:**

**Type A** - Cloth, paper and wood that produce Ash

**Type B** - Gasoline, oil, and other combustible/flammable material placed in a Barrel.

**Type C** - Electrically energized fires involving equipment and Circuits or Current

There are many reasons which causes fire such as accidents, electrical short-circuit, carelessness, etc. Further, Gujarat is highly industrialized State which increases the vulnerability. Fire causes huge losses of life and property every year. And yet, with some precaution, most fires can be prevented and damage minimized.

### **TYPES OF EXTINGUISHERS:**

**Pressurized Water (P/W)**- These are normally found in residence halls where cloth, paper, and wood are the most common hazards. They are metallic colored and hold approximately 2 ½ gallons of water. They are capable of discharging a distance of 25' – 30' for approximately 1 minute.

**Dry Chemical (ABC) or (BC)** – These are normally found in cars, laboratories, and other places where gasoline, oil, and other combustible/flammable liquids are used. They are usually red in color and are capable of spraying 10' – 15' for approximately 30 seconds.

**Carbon Dioxide (CO<sub>2</sub>)** – These are normally found only in electrical or mechanical rooms where electricity is the hazard. They are used to put out electrical fires while the equipment is still energized. The carbon dioxide extinguishers are red in color, have no gauge to indicate amount of contents, and are limited to a spray distance of 5' – 10' for about 10 seconds.

**Halon** - These extinguishers were used for computer room fires in the past, but their use now is questionable because of health risks associated with the halon agents in a fire situation. Amherst College no longer uses this type of extinguisher or extinguishing agent.

Fire Services in Gujarat are under the respective concerned municipal corporations.

## **ANNEXURE – 21**

### **Action Plan for Flood & Flash Flood:**

Gujarat has seen many damaging floods. Almost all major rivers in the state pass through a wide stretch of very flat terrain (often more than 50 km) before reaching the sea. These flat low lands of lower river basins are prone to flooding.

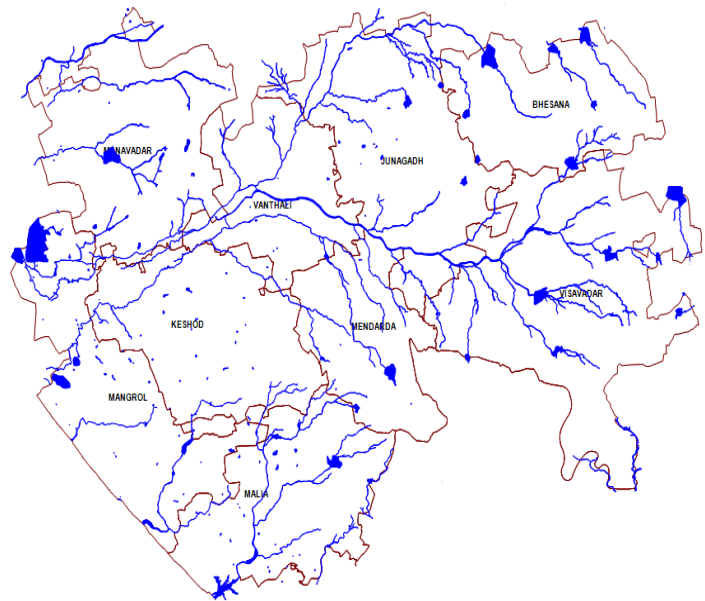
The one-day Probable Maximum Precipitation (PMP) is often higher than the average annual rainfall in most parts of Saurashtra and Kachchh. Occasional cyclones and depressions also cause heavy rainfall in large parts of Saurashtra, Kachchh, central and northern Gujarat.

The cities of Ahmedabad, Surat and Bharuch are also located on the flat alluvial plains of large rivers and are prone to flooding.

The Figure shows that almost all parts of Gujarat are flood prone, irrespective of the size of the catchment. It has to be noted that the flood prone villages classified by Flood control Cell is based on the settlements affected.

The Flood risks in Saurashtra are lower than the flood risks in the South Gujarat plains. The relatively flat plains in the lower basin areas with hilly catchments in the upper parts of South Gujarat accentuate flood risks.

The flood prone river sections were identified by the flood prone village map. The Flood prone river sections in Saurashtra extend to the upper basins. This is due to the presence of dams in the upper basins, which have to resort to emergency discharge during heavy rainstorms. Flood prone river sections presented in picture



In Saurashtra, the valley areas are the only arable lands due to presence of shallow rock in higher elevations of the basin. Even small valleys are used for agriculture and hence any flooding in these zones impacts the residents and settlements.

### **Flood Prevention, Preparedness and Mitigation**

Floods being the most common natural disaster, people have, out of experience, devised many ways of coping with them. However, encroachments into the flood plains over the years has aggravated the flood problem and a need to take effective and sustained measures has been felt. Various measures, structural and non-structural, have been taken by the central and state governments and as a result, considerable protection has been provided to the people.

However, more efforts are required in this direction and there is a need to put in place a technological regime to make structures flood-proof and regulate the activities in the flood plains of the rivers. Flood forecasting and warning and Decision Support System (DSS) will be established on a scientific basis taking into account the latest technological developments in the world.

## **ANNEXURE – 22**

### **Action Plan for Lightning and Thunderstorm:**

Thunderstorm and Lightning are hazardous and cause risk to life and public property. There are potentially hazardous for aviation sector as well in addition to transport, power, communication and other socio-economic sectors. Lightning being the flow of electric charges, any electrically conductive body can be affected by lightning. Hence the electrical appliances if operated during lightning period can be affected by lightning. Similarly, the living beings coming in contact with lightning directly or indirectly through electrical conductors can be affected, often leading to death.

In India every year more than 2500 people die due to lightning. Mostly Rural and forest areas are vulnerable with tall trees and water bodies. Majority of the lightning victims are the people working on the field in rural area. Lightning is also a major cause of electrical power breakdowns, and forest fires. It can also cause damages to communication and computer equipment, and aircrafts.

**Thunderstorm is a small-scale phenomenon** and has a life cycle of up to only three hours. It has a dimension of 2 km to 20 km, and therefore, its detection is difficult. Automatic weather stations (AWS) provide some basic parameters such as wind speed, wind direction, relative humidity temperature, pressure etc.

### **Preparedness and Mitigation Measures**

The lessons learnt from various thunderstorm and squall events in India, particular regarding rescue and relief works and the shortcomings experienced in the process should be carefully and honestly. Lack of communication and transportation, undue delays in clearing the roads and or streets blocked due to the falling of trees, electricity poles and hoardings that further delays in the immediate transportation of the injured to the nearby hospital. The hierarchical structure for execution needs to be formalized so that all efforts are properly coordinated. Coordination of all relief distribution is as important as its quantity and timely delivery; otherwise some places may receive it in duplicate and triplicate and some places remain completely starved.

### **Vulnerability assessment of buildings, structure/infrastructure, lifelines, economy and people should be undertaken:**

The occurrence of thunderstorm and or squall is a natural hazard over which man has no control at present. Its prediction with respect to precise time, place or intensity of occurrence is still not feasible. But this natural hazard gets converted into a disaster to the society. Enough experience has been gained worldwide and researches carried out in India which gives us confidence to minimize the damages human casualties and loss of cattle heads due the onslaught of thunderstorm and or squall.

### **Protection against Lightning — Lightning Shields**

Lightning shields are the most commonly employed structural protection measures for buildings and other structures. The lightning shield consists of installation of a lightning conductor at a suitably high location at the top of the structure. The conductor is grounded using a metal strip of suitable conductance. The grounding of the conductor is also specially designed to ensure rapid dissipation of the electrical charge of lightning strike into the ground.

## **ANNEXURE – 23**

### **Action Plan for Mass Gathering Events:**

Celebrations and festivals in India are part of our cultural and religious diversity. India being the second most populated country in the world with diverse religious heritage has vast number of festivals that are celebrated on grand scale. Many of them are celebrated at national level, regional or state level.

Religious pilgrimage is highly prone to human stampedes as it is comprised of huge crowd including women, elderly people and children. The availability of limited open space, uneven topography and high density of pilgrims together make the festival venues a stampede hotspot. Human stampede at festival gatherings may happen due to the following reasons

**Rush and Surge of people:** People may try to enter into a special place for better view/participation in the functions which results in jostling, suffocation, failure of confining walls, barriers and gates.

**Accidents:** Collapse of temporary or permanent structures, accidents on bridges, vehicle accidents  
**Natural or human induced hazards:** slope failure, heavy rain, slippery surfaces, fire, intentional acts etc.

**Rumors:** Spread of rumor about an accident, man-animal conflict, terror attack, stampede or a calamity near to the venue

**Long Queue Discomfort:** People standing in tightly packed queues for long hours will create discomfort among individuals and they may try to escape from the queues.

Disaster preparedness process for religious mass gatherings should begin with the event planning stage. The event organizer shall take up the design and execution of safety components with the help of safety agencies and services.

### **Festival Safety -Preparations**

Coordinating religious mass gatherings require additional man power, resources, facilities and support from other agencies or experts. Proposed site for mass gatherings need to be assessed for additional facilities based on the expected crowd size and crowd behavior. Event organizers may utilize the service of disaster management experts for effective planning and implementation of preparedness measures.

### **Risk Assessment**

The mass gathering organizer has to submit a risk assessment statement and venue lay out map along with the event proposal form. The venue lay out map should contain services and utilities proposed and arranged at the venue, fire hydrant points, police control room, emergency operation centre, medical facilities, crowd flow pattern, crowd management facilities etc.

### **Crisis Communication Plan**

Crisis Communication plan act as the fundamental coordination mechanism for event organizer and emergency services. The event organizer is responsible to establish a crisis communication system for the venue that should include a system to address the public, and a system for internal communication.

### **Onsite Response Plan**

Identify the agency or department that is responsible for each hazard. Prior permission from the agencies must have taken while specifying the responsibilities of each agency. For effective emergency response, the festival venue may be classified as sectors and sector wise responsibilities may be assigned. Locate fire units and first aid teams at important locations for major events.

### **Resource Inventory**

Include emergency contact details and resources which are required to meet a festival emergency

## **ANNEXURE – 24**

### **Action Plan for Drought:**

Drought or a distressed situation caused by lack of rainfall is a deadly natural environmental hazard. It is directly related to one of the basic requirements of any form of life (i.e. water, air and food) that is, water and is indirectly related to food because crops and other plants and animals exclusively depend on water. Droughts resulting from accumulative effect of water scarcity cause extensive and enormous damage to agriculture and natural vegetation and therefore cause famine and starvation to human and animal population of the region concerned.

According to India Meteorological Department (I.M.D.), the drought in India is a situation occurring in any area when the mean rainfall of a year is less than 75% of the mean annual rainfall. I.M.D. classified drought in two broad categories:-

**Severe Drought:** When the deficiency of rainfall exceeds 50% of the normal rainfall.

**Moderate Drought:** When the deficiency of rainfall is between 25% and 50% of the normal rainfall.

**Meteorological Drought:** Meteorological drought is a situation when the actual rainfalls do not arrive in time or less than the climatologically expected rainfall over a wide area.

**Hydrological Drought:** Hydrological Drought is associated with marked depletion of surface water and consequent drying up of lakes, rivers and reservoirs except deep geological aquifers.

**Agricultural Drought:** Agricultural drought occurs when the soil moisture is inadequate to support a healthy growth of crops to the stage of maturity.

### **IMPACT OF DROUGHT**

Drought is somewhat different from the other major natural disasters. Floods, earthquakes and cyclones start in a comparatively sudden manners, having a relatively short duration and are restricted to local influence.

Drought in contrast starts slowly, having long duration, being of the creeping and pervasive nature, covers vast areas. Floods, cyclones and earthquakes are disasters associated with extreme events, drought is the extreme hydrologic result of the non-occurrence or less than normal mean rainfall of an area. Basically drought is a slow evolution that seldom causes dramatic losses of human life (except in famine) but its effect is long lasting in economic sector for the region and its people.

### **Drought management in Gujarat**

Relief Manual (2016–17) under Gujarat Land Revenues Rules for assessment of crop-losses in terms of scores (1 to 12 scores).

The assessment is carried out for each village by the *Annawari* committee which includes a chairperson: a Circle Inspector and members (village heads, important persons of the villages, farmers' representatives etc.). The committee estimates yields from three plots representing good, medium and poor crop conditions in a village by actual harvest. The estimated *Annawari Report* is published and feedback, objections and grievances from the villagers may be submitted within 15 days. After the objection period is over, the committee submits the report to Sub-divisional Magistrate who sends it to the District Collector to finalize the decision. Whenever there is a serious shortage of drinking water, crop failure, very abnormal rainfall, high inter-spell duration and so on, the state governments immediately shoot off a letter to the central government asking for relief. The Ministry of Agriculture sends a team to assess the problem and sanctions money to the states.

## **ANNEXURE – 25**

### **Action Plan for CBRN:**

Chemical, Biological, Radiological and Nuclear (**CBRN**) Threats. '**CBRN**' is the abbreviation commonly used to describe the malicious use of Chemical, Biological, Radiological and Nuclear materials or weapons with the intention to cause significant harm or disruption. A CBRN incident differs from a hazardous material incident in both scope and intent.

#### **Chemical**

The main types of chemical weapons are:

- Nerve agents, which attack the central nervous system. Examples include types of pesticides called organophosphates; sarin; and VX.
- Blister agents, which cause burns and blisters both inside and outside of the body. Examples include the mustard gases.
- Incapacitating agents, which are designed to hurt a large number of people, and make it impossible for them to fight back, but without killing them. Examples include tear gas and pepper spray.

#### **Biological**

The goal of biological weapons is to get as many people sick with infectious diseases as possible.

Types of biological weapons include:

- Bacteria, like the bacteria that cause anthrax and plague
- Viruses, like the ones that cause smallpox, Ebola, and the flu
- Toxins (poisons made by living things), like ricin, botulism toxin, and aflatoxin

#### **Radiological**

A radiological weapon is any kind of weapon that spreads radiation. For example:

- A dirty bomb (a regular bomb which spreads radioactive material)
- Poisoning food or water supplies with radioactive contamination

#### **Nuclear**

A nuclear weapon releases a huge amount of energy in a nuclear explosion. Nuclear weapons can kill everyone in a city, and make many other people who survive sick with radiation poisoning.

### **Line of Communication and Responsibility for the State**

- For metropolitan areas, the Incident Commander for all nuclear hazards shall be the Commissioner of Police. For other areas it will be the District Magistrate (DM). DEOC / District Magistrate/ Commissioner of Police shall inform the State Emergency Operation Center (SEOC), the Commissioner of Relief (COR) and GSDMA.
- The COR or GSDMA shall convene an immediate meeting of the Crisis Management Group under the Chief Secretary.
- COR shall inform National Emergency Operation Center (NEOC) and if required coordinate with Bhabha Atomic Research Center (BARC) for specialized support.
- The Commissioner of Police in a metropolitan area and the District Magistrate in others shall review the situation and activate coordination, command and control.
- Commissioner of Health (COH) shall place medical and para-medical teams if required at the disposal of the Incident Commander.
- The Fire Brigade as well as personnel/vehicles/equipments from GSDMA's Emergency Response Centers (ERCs) will report to the Incident Commander.
- Commissioner of Relief (COR) shall also coordinate immediate evacuation of potentially affected civilians with the CP, Municipal Commissioner and Collector.
- Chemical Biological Nuclear and Radiological team (CBRN) shall be formed and deployed to ground zero by the incident commander.

## **ANNEXURE – 26**

### **Action Plan for Epidemics:**

District crisis group is a multi-sectoral group and comprises of different government departments, the group is headed by District Collector and senior/ junior factory inspector is a member secretary.

Chief district medical officers {CDMO} and Chief District health officers {CDHO} are members of this group. As per the guidance from the Commissionerate of Health, Medical Services and Medical Education, CDMO and CDHO of each district are to prepare a Contingency Plan for Medical Relief in Disaster so as to meet any adverse event in future limit immediate and delayed consequences of such a Disaster.

Activities to be carried out on strikes of any Disasters in District:

- ☐ PHC team will rush to affected village and start curative services as well as preventive and control measure of an outbreak.
- ☐ At the site team will carry out house to house surveillance.
- ☐ Team will guide and give health education regarding disease, and for prepare dispose of night soil, house hold garbage etc.
- ☐ Along with curative and control Measure team will carry out focal spray of insecticide and disinfectant in affected family and surrounding 50 House.
- ☐ Team will carry out super dose chlorination of all pre identified sources of potable water in the affected village also distribute chlorine tablet for domestic use.
- ☐ Team will prepare program for regular chlorination through Health worker and Panchayat Machinery.
- ☐ Male Health supervisor made responsible for checking the chlorination He is instructed to maintain register of R.C. test and asked to report regular.
- ☐ To maintain sanitary condition, Retail shop of food and food preparation, Fruit shop, Ice-cream and Cold drink shop must be check up.
- ☐ Team will take water sample, food sample, blood, urine, stool as per necessity and if possible carry out laboratory analysis on the spot or will send the sample to Baroda laboratory with special Messenger.
- ☐ If it is necessary team will carry out vaccine immunization.
- ☐ With the help of Panchayat machinery Health Worker / supervisor make it possible to dispose, spoil food.
- ☐ Medical officer are instructed to take active support of youth forums, Mahila Mandal, Gram Panchayat and other NGO in their jurisdiction.
- ☐ Male supervisor made responsible for reporting of all activity carried out to the district health officer.
- ☐ If it is necessary other medical team and logistic will deputed from non-affected area.



## **ANNEXURE – 27**

### **Evacuation plan:**

On the basis of assessment of the severity of the disaster, the State Relief Commissioner shall issue appropriate instructions on actions to be taken including evacuation to the District Collector, who will then supervise evacuation.

The District Collector will give direction to the Liaison Officers, Dy. Collector and all concerned departments for evacuation based on situation. This will be carried out by the Revenue department, Local police & District Panchayat department.

At the village level, members of the VDMCs and DMTs or village level will coordinate the evacuation procedures to the pre-designated relief centers, taking special care of the vulnerable groups of women, children, old people etc.

### **Types of evacuation:**

For the purpose of planning, all evacuations may be considered to be one of two generic types:

- (a) Immediate evacuation, which allows little or no warning and limited preparation time as in the case of earthquakes and air accident.
- (b) Pre-warned evacuation resulting from an event that provides adequate warning and does not unduly limit preparation time as in the case of flood and cyclones.

Evacuation Team Members are mainly responsible to evacuate and carry out search and rescue operation during the time of emergency. The members of this team are mainly young men and women of the village, ex-service men; swimmers, etc. Rescue kits necessary to carry out the activities of this team would be ideally made locally with indigenous materials available. These members are trained with the help of Civil Defence, Police, Fire services etc.

- ☐ In cases where the approach road is clear, people will be evacuated by local tractor/trolley, ST bus & other big vehicles. The people trapped in areas surrounded by water will be rescued by the Mamlatdar, local police & local swimmers through boats.
- ☐ RTO Office will be directed to arrange and supply vehicle for evacuation & rescue operation.
- ☐ Make transport arrangement for mobilization of all emergency response teams.
- ☐ Ensure that the arrangement for basic amenities (shown below) at evacuation/relief centres are made by the respective departments:
  - o Drinking water, o Food, o Sanitation and hygiene, o Lighting, o Health Care
- ☐ Ensure that law and order is maintained at evacuation centers and in the affected areas as well.
- ☐ Maintain the records of area-wise population, shelter centers in your area for effective emergency evacuation.

All evacuations will be ordered only by the Collector/Mamlatdar or by the SP or Fire Brigade, after consultation with the District Collector. SP should ensure appropriate security and maintenance of law and order during evacuation process and render all possible assistance to the Village level Task Force members. All voluntary evacuations should be immediately reported to the Collector.

All Primary Schools and Higher Secondary Schools and Community Centers will be utilised for Evacuation. Collector-Junagadh had ordered DEO/DPEO to handover schools to taluka authority for shelter as and when Evacuation took place.

## **ANNEXURE – 28**

### **Shelter Management Plan:**

As per instruction of a District collector or message from SEOC, DDO will do operation of relief and shelter with their staff, group members & their staff and maintain the records of area-wise population, shelter centers in your area for effective emergency evacuation.

Based on the warning issued by IMD, pin point the districts and villages likely to be affected by Disasters and start the procedure for identifying safe places/shelters for evacuation in those villages.

Generally public buildings are given first priority for shelter because they are lesser in number and at the time of disaster people can take shelter in these public buildings.

Shelter Management Team takes care of the identified shelter buildings in pre, during and post disaster scenario. Care needs to be taken to stock necessary material such as food, drinking water, medicines, bleaching powder, firewood, lantern, etc. Special care needs to be taken for the animal stock during any disaster. The team needs to ensure hygiene in and around the shelter place. Women are generally active members of the shelter team as they are well acquainted with house management, and are able to manage shelters during emergency. The team leader or any other team member should have the keys of the safe shelters so that prior to the disaster they will clean up the place and make available the necessary materials like food, water, medicines, bleaching powder, firewood, lantern, etc. required for the evacuees during disaster period.

The Industries Officer, Salt Commission Office, President of the Salt Manufacturers Association will evacuate workers from salt factories to safe shelters.

The most important action by the police is to cordon off the site of the accident, divert and regulate traffic, and evacuate/shelter in place citizens in close proximity on a priority basis.

Village wise data of safe sheltering for evacuation available on SDRN should be referred and the dist. Lison officers/Taluka level officers/Village level officers should be contacted to know the status of the shelters with the capacity of the shelter and other available facilities at the site. Arrange to shift evacuated persons to temporary shelters and ensure provision of food, water facilities, blankets and storage of relief materials.

Arrange for complaints regarding missing persons and initiate search in shelters, hospitals and police records. The villagers identify safe areas such as strong houses /buildings, raised platforms etc. These act as a shelter place for the people in the event of an evacuation. It would be useful to identify the alternate approach routes which could be used during the time of an emergency.

Field visit to the affected areas and shelter/ relief camp sites and report preparation and forward to Collector for approval, sanction and onward action. Check the condition of safe shelter during his visits in the district places and if necessary gets it repaired by co-coordinating with the local authorities, available financial resources and voluntary organizations.

Setting up relief camps and tents using innovative methods that can save time. Instruct local authorities to set up important telecom and other service related facilities. Initiate, direct and market procurement of food available from different inventories and ensuring food supplies to the affected population. Prepare take-home food packets for the families. Ensure distribution of relief material to the all the people including vulnerable groups of the target area such as women with infants, pregnant women, children, aged people and handicapped. Ensuring supports from all corners to Local Administration.

## **ANNEXURE – 21**

### **Media Management Plan:**

Media can play crucial role during response time. Media management will ensure precise communication of the impact of disaster and relief measures being taken and generate goodwill among community and other stakeholders.

Timely mass media communication about impending disasters can lead to appropriate individual and community action, which is the key to implementing effective prevention strategies including evacuation and survival of people. Such communications can educate, warn, inform, and empower people to take practical steps to protect themselves from natural hazards.

Junagadh Collectorate office has established an effective system of collaborating with the media during emergencies. Both print and electronic media is regularly briefed at predetermined time intervals about the events as they occur and the prevailing situation on ground. A similar set up is also active at the Taluka Control room (i.e. Mamlatdar office).

Dy. Director, Information will establish media management / information cell for public information, guidance and rumor control and will assure following activities...

#### **1. For Preparedness:**

- ☐ Broadcast programs to raise people's awareness of disaster prevention measures
- ☐ Develop news sources in emergency situation
- ☐ Place broadcast equipments, microphone, tape/CD, transmitter, antennae in safety.

#### **2. For Mitigation:**

- ☐ Develop networks with DEOC/TEOC, NGOs, local government offices & stakeholders.

#### **3. For Response:**

- ☐ Broadcast pre - prepared announcements
- ☐ Broadcast emergency public meetings
- ☐ Broadcast emergency evacuation announcements
- ☐ All announcements broadcast in a reassuring and calm manner
- ☐ Dispel myths and rumours and provide timely and accurate updates
- ☐ Broadcast updates on damage situation
- ☐ Produce programs in which victims can express themselves
- ☐ Establish contact with the meteorological office and broadcast weather informations

DEOC have to be ensured that the interaction with media is a two way process through which not only the DEOC provides the information / updates to the media but the media too, through their own sources / resources draws the attention of the DEOC officials to the need and requirement of the affected people.

## **ANNEXURE – 22**

### **Disaster Zonation:**

#### **Earthquake:**

The District is located in Zone-III of seismic vulnerability as captured in the Vulnerability Atlas. While earthquakes cannot be predicted, a detailed mapping of seismic fault systems and seismic source regions, quantification of probability of experiencing various strengths of ground motion at a site in terms of return period for intensity will be carried out and appropriate regulations put in place to decrease the vulnerability of built environment.

Junagadh District's situation indicates that some parts of the District like Sasan and Maliya taluka have been adequately provided with the seismic instrumentation.

#### **Flood:**

River flooding is a regular hazard faced by the District. All the major river systems in the District are vulnerable to flooding, as captured in the Vulnerability Atlas. The urban areas like Chorwad, Keshod, Vanthali, Manavadar and Mangrol are facing flooding primarily due to drainage and increased run-off loads in hard surfaces.

#### **Cyclone:**

Coastal areas of District like Maliya and Mangrol are particularly prone to Cyclone. Cyclones originate out at sea and become hazardous when they come ashore. They also drive the sea level up to cause coastal flooding.

At a community level, the GSDMA has proposed to provide temporary cyclone shelter. There are 27 identified sites to construct Cyclone Shelter on Coastal Belt of Junagadh District. These shelters will be, with built-in safety against high wind velocity and heavy rainfall and within easy reach of the people most affected.

#### **Chemical Disasters:**

Junagadh district has no specific chemical zone of factories. However the disaster preparedness as precautionary measures have envisaged by involving all the major Departments who are directly or indirectly responsible for Chemical hazard.

The Junagadh district with 15.25 lacs population covering an area of 5027.60 sq. kilometers and 553 villages consist of 10 talukas and five revenue sub-divisions has got 32 numbers of chemical units. However, none in the Taluka is considering as dangerous.

#### **Tsunami:**

Tsunamis are most often generated by earthquake-induced movement of the ocean floor. Landslides, volcanic eruptions, and even meteorites can also generate a tsunami. Areas at greatest risk are less than 25 feet above sea level and within one mile of the shoreline. So far as Junagadh District is concern there are 2 costal talukas and as per Analysis of Mean Sea level of Junagadh District, there are 8 villages of 2 costal taluka are less then 2 km far from sea and on less then 9 meter of height from ocean level.

## **ANNEXURE – 23**

### **Relief and Rehabilitation Norms (Standards):**

#### **REVISED LIST OF ITEMS AND NORMS OF ASSISTANCE FROM STATE DISASTER RESPONSE FUNDS (SDRF) AND NATIONAL DISASTER RESPONSE FUND (NDRF)**

(Period 2015-20, MHA Letter No. 32-7/2014-NDM-I Dated 8<sup>th</sup> April 2015)

Sl. No.	Items	NORMS OF ASSISTANCE
1	2	3
1.	Gratuitous Relief	
	a) Ex-Gratia payment to families of deceased persons.	Rs.4.00 lakh per deceased person including those involved in relief operations or associated in preparedness activities, subject to certification regarding cause of death from appropriate authority.
	b) Ex-Gratia payment for loss of a limb or eye(s).	Rs. 59100/- per person, when the disability is between 40% and 60%.  Rs. 2.00 lakh per person, when the disability is more than 60%.  Subject to certification by a doctor from a hospital or dispensary of Government, regarding extent and cause of disability.
	c) Grievous injury requiring hospitalization	Rs. 12,700/- per person requiring hospitalization for more than a week.  Rs. 4,300/- per person requiring hospitalization for less than a week.
	d) Clothing and utensils/ house-hold goods for families whose houses have been washed away/ fully damaged/severely inundated for more than two days due to a natural calamity.	Rs.1,800/- per family, for loss of clothing.  Rs.2,000/- per family, for loss of utensils/ household goods.
	e) Gratuitous relief for families whose livelihood is seriously affected.	Rs. 60/- per adult and Rs. 45/- per child, not housed in relief camps. State Govt. will certify that identified beneficiaries are not housed in relief camps. Further State Government will provide the basis and process for arriving at such beneficiaries district-wise.  Period for providing gratuitous relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period of assistance will upto to 30 days, which may be extended upto 60 days in the first instance, if required, and subsequently upto 90 days in case of drought/ pest attack. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.
2.	<b>SEARCH &amp; RESCUE OPERATIONS</b>	
	(a) Cost of search and rescue measures/ evacuation of people affected/ likely to be affected	As per actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF).

		<ul style="list-style-type: none"> <li>- By the time the Central Team visits the affected area, these activities are already over. Therefore, the State Level Committee and the Central Team can recommend actual/ near-actual costs.</li> </ul>
	(b) Hiring of boats for carrying immediate relief and saving lives.	<p>As per actual cost incurred, assessed by SEC and recommended by the Central Team (in case of NDRF).</p> <p>The quantum of assistance will be limited to the actual expenditure incurred on hiring boats and essential equipment required for rescuing stranded people and thereby saving human lives during a notified natural calamity.</p>
3	<b>RELIEF MEASURES</b>	
	a) Provision for temporary accommodation, food, clothing, medical care, etc. for people affected/ evacuated and sheltered in relief camps.	<p>As per assessment of need by SEC and recommendation of the Central Team (in case of NDRF), for a period up to 30 days. The SEC would need to specify the number of camps, their duration and the number of persons in camps. In case of continuation of a calamity like drought, or widespread devastation caused by earthquake or flood etc., this period may be extended to 60 days, and upto 90 days in cases of severe drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p> <p>Medical care may be provided from National Rural Health Mission (NRHM).</p>
	b) Air dropping of essential supplies	<p>As per actual, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF).</p> <ul style="list-style-type: none"> <li>- The quantum of assistance will be limited to actual amount raised in the bills by the Ministry of Defence for airdropping of essential supplies and rescue operations only.</li> </ul>
	c) Provision of emergency supply of drinking water in rural areas and urban areas	<p>As per actual cost, based on assessment of need by SEC and recommended by the Central Team (in case of NDRF), up to 30 days and may be extended upto 90 days in case of drought. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit subject to that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p>
4.	<b>CLEARANCE OF AFFECTED AREAS</b>	
	a) Clearance of debris in public areas.	<p>As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central team for assistance to be provided under NDRF.</p>
	b) Draining off flood water in affected areas	<p>As per actual cost within 30 days from the date of start of the work based on assessment of need by SEC for the assistance to be provided under SDRF and as per assessment of the Central team (in case of NDRF).</p>
	c) Disposal of dead bodies/ Carcasses	<p>As per actuals, based on assessment of need by SEC and</p>

		recommendation of the Central Team (in case of NDRF).
5	<b>AGRICULTURE</b>	
(i)	<i>Assistance farmers having landholding upto 2 ha</i>	
A.	<b>Assistance for land and other loss</b>	
	a). De-silting of agricultural land (where thickness of sand/ silt deposit is more than 3", to be certified by the competent authority of the State Government.)	Rs. 12,200/- per hectare for each item.  (Subject to the condition that no other assistance/ subsidy has been availed of by/ is eligible to the beneficiary under any other Government Scheme)
	b) Removal of debris on agricultural land in hilly areas	
	c) De-silting/ Restoration/ Repair of fish farms	
	d) Loss of substantial portion of land caused by landslide, avalanche, change of course of rivers.	Rs. 37,500/- per hectare to only those small and marginal farmers whose ownership of the land is legitimate as per the revenue records.
B.	<b>Input subsidy (where crop loss is 33% and above)</b>	
	a) For agriculture crops, horticulture crops and annual plantation crops	Rs. 6,800/- per ha. in rainfed areas and restricted to sown areas.  Rs. 13,500/- per ha. in assured irrigated areas, subject to minimum assistance not less than Rs.1000 and restricted to sown areas.
	b) Perennial crops	Rs. 18,000/- ha. for all types of perennial crops subject to minimum assistance not less than Rs. 2000/- and restricted to sown areas.
	c) Sericulture	Rs. 4,800/- per ha. for Eri, Mulberry, Tussar Rs. 6,000/- per ha. for Muga.
(ii)	<i>Input subsidy to farmers having more than 2 Ha of landholding</i>	Rs. 6,800/- per hectare in rainfed areas and restricted to sown areas. Rs.13,500/- per hectare for areas under assured irrigation and restricted to sown areas. Rs. 18,000/- per hectare for all types of perennial crops and restricted to sown areas.  Assistance may be provided where crop loss is 33% and above, subject to a ceiling of 2 ha. per farmer.
6	<b>ANIMAL HUSBANDRY ASSISTANCE TO SMALL AND MARGINAL FARMERS</b>	
	i) Replacement of milch animals, draught animals or animals used for haulage.	<i>Milch animals -</i>  Rs. 30,000/- Buffalo/ cow/ camel/ yak/ Mithun etc. Rs. 3,000/- Sheep/ Goat/ Pig  <i>Draught animals -</i>  Rs. 25000/- Camel/ horse/ bullock, etc. Rs. 16,000/- Calf/ Donkey/ Pony/ Mule  - The assistance may be restricted for the actual loss of economically productive animals and will be subject to a

		<p>ceiling of 3 large milch animals or 30 small milch animals or 3 large draught animals or 6 small draught animals per household irrespective of whether a household has lost a larger number of animals. (The loss is to be certified by the Competent Authority designated by the State Government).</p> <p><b>Poultry:-</b> Poultry @ 50/- per bird subject to a ceiling of assistance of Rs 5000/- per beneficiary household. The death of the poultry birds should be on account of a natural calamity.</p> <p><b>Note:-</b> Relief under these norms is not eligible if the assistance is available from any other Government Scheme, e.g. loss of birds due to Avian Influenza or any other diseases for which the Department of Animal Husbandry has a separate scheme for compensating the poultry owners.</p>
	ii) Provision of fodder / feed concentrate including water supply and medicines in cattle camps.	<p>Large animals- Rs. 70/- per day.</p> <p>Small animals- Rs. 35/- per day.</p> <p>Period for providing relief will be as per assessment of the State Executive Committee (SEC) and the Central Team (in case of NDRF). The default period for assistance will be upto 30 days, which may be extended upto 60 days in the first instance and in case of severe drought up to 90 days. Depending on the ground situation, the State Executive Committee can extend the time period beyond the prescribed limit, subject to the stipulation that expenditure on this account should not exceed 25% of SDRF allocation for the year.</p> <p>Based on assessment of need by SEC and recommendation of the Central Team, (in case of NDRF) consistent with estimates of cattle as per Livestock Census and subject to the certificate by the competent authority about the requirement of medicine and vaccine being calamity related.</p>
	iii) Transport of fodder to cattle outside cattle camps	As per actual cost of transport, based on assessment of need by SEC and recommendation of the Central Team (in case of NDRF) consistent with estimates of cattle as per Livestock Census.
7	<b>FISHERY</b>	
	<p>i) Assistance to Fisherman for repair / replacement of boats, nets - damaged or lost</p> <p>-- Boat</p> <p>-- Dugout-Canoe</p> <p>-- Catamaran</p> <p>-- net</p> <p>(This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/ assistance, for the instant calamity, under any other Government Scheme.)</p>	<p>Rs. 4,100/- for repair of partially damaged boats only</p> <p>Rs. 2,100/- for repair of partially damaged net</p> <p>Rs. 9,600/- for replacement of fully damaged boats</p> <p>Rs. 2,600/- for replacement of fully damaged net</p>
	ii) Input subsidy for fish seed farm	Rs. 8,200 per hectare.

4



		(This assistance will not be provided if the beneficiary is eligible or has availed of any subsidy/ assistance, for the instant calamity, under any other Government Scheme, except the one time subsidy provided under the Scheme of Department of Animal; Husbandry, Dairying and Fisheries, Ministry of Agriculture.)
8	<b>HANDICRAFTS/HANDLOOM ASSISTANCE TO ARTISANS</b>	
	i) For replacement of damaged tools/ equipment	Rs. 4,100 per artisan for equipments. - Subject to certification by the competent authority designated by the Government about damage and its replacement.
	ii) For loss of raw material/ goods in process/ finished goods	Rs. 4,100 per artisan for raw material. - Subject to certification by Competent Authority designated by the State Government about loss and its replacement.
9	<b>HOUSING</b>	
	a) Fully damaged/ destroyed houses	
	i) Pucca house	
	ii) Kutch House	Rs. 95,100/- per house, in plain areas.
	b) Severely damaged houses	
	i) Pucca House	Rs. 1,01,900/- per house, in hilly areas including Integrated Action Plan (IAP) districts.
	ii) Kutch House	
	(c) Partially Damaged Houses -	
	(i) Pucca (other than huts) where the damage is at least 15 %	Rs. 5,200/- per house
	(ii) Kutch (other than huts) where the damage is at least 15 %	Rs. 3,200/- per house
	d) Damaged / destroyed huts:	Rs. 4,100/- per hut,  (Hut means temporary, make shift unit, inferior to Kutch house, made of thatch, mud, plastic sheets etc. traditionally recognized as hut by the State/ District authorities.)  Note: -The damaged house should be an authorized construction duly certified by the Competent Authority of the State Government.
	e) Cattle shed attached with house	Rs. 2,100/- per shed.

## **ANNEXURE – 24**

### **Formats (Reports, Damage and Loss Assessment):**

#### **1. Format of Primary Situation Report:**

<b>Emergency Operation Center – City/ Taluka / District.....</b> <b>Address.....</b> <b>Phone No..... Fax No. ....</b> <b>Email Address: -</b>
---

No. Disa/...../Pri.Rep./2014

Date: -     /     / 2014

#### **Primary Situation Report of Calamity / Accident**

1	Type of Calamity	
2	Name, Address details of a person/s injured/ death in Calamity/ Disaster (If Available)	
3	Place of Calamity (Place/Village/Taluka/District)	
4	Date / Time	
5	Reason of Accident / Calamity	
6	Description of Accident, Calamity, Disaster	
7	Activity / Process done at Village / Taluka / City / District Place	

This is the Primary Situation Report sent to you. Detail Report will be sent to your office later on.

**Designation,  
Office of the.....,  
(District / Taluka / City)**

**To,  
Hon. Collector sir,  
DEOC, Collector office, Junagadh,  
Ph. - 0285-2633446, Fax. - 0285-2633449**

**Copy to...  
Director of Relief,  
New Sachivalay, Gandhinagar.**

## 2. Format for Damage and Loss Assessment:

### A. Inspection Team

Structure Engineer: \_\_\_\_\_

Civil Engineer: \_\_\_\_\_

Junior Engineer: \_\_\_\_\_

Officer of Local Competent: \_\_\_\_\_

Authority (from engg. section)

Photographer: \_\_\_\_\_

Inspection Date & Time: \_\_\_\_\_

Area Inspected: ☐ Exterior Only  
☐ Exterior & Interior

### B. Type of Disaster

☐ Earthquake ☐ Flood ☐ Fire ☐ Cyclone ☐ Blast ☐ Other

### C. Location, Type & Occupancy of Building:

Location:

Building Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact: \_\_\_\_\_ Phone: \_\_\_\_\_

Survey No.: \_\_\_\_\_

Final Plot No.: \_\_\_\_\_

Sub Plot No.: \_\_\_\_\_

Town Planning Scheme No.: \_\_\_\_\_

Brief Details:

Number of stones above ground: \_\_\_\_\_

below ground: \_\_\_\_\_

Parking Floor: ☐ Ground Level  
☐ Basement Level

Approx. Footprint area (sqm): \_\_\_\_\_

No. of residential units: \_\_\_\_\_

No. of residential units: \_\_\_\_\_

not habitable

(To be collected from Competent Authority)

### Type of Construction:

☐ Timber Construction

☐ Masonry Construction

☐ Kiln burnt bricks

☐ Unburnt bricks

☐ Random Rubble Uncoarsed

☐ Random Rubble Coarsed

☐ Hollow Concrete Blocks

☐ Steel Structure

☐ Other: \_\_\_\_\_

☐ Reinforced Masonry

☐ Kiln burnt bricks

☐ Hollow Concrete Blocks

☐ Concrete Frame

☐ Concrete Shear Wall

☐ Dual System

☐ Precast Concrete Construction

☐ Composite Structure

### Primary Occupancy:

☐ Individual House

☐ Offices

☐ Government

☐ Semi Government

☐ Emergency Services

☐ Hospital

☐ Commercial

☐ Restaurant

☐ Hotel

☐ Industrial

☐ Cinema House, Auditoriums, Assembly Halls

☐ Other: \_\_\_\_\_

☐ Educational

☐ School

☐ College

☐ University

☐ Group Housing

☐ Tenaments

☐ Flats

☐ Historic

☐ Fire Stations

**D. Assessment:**

Investigate the building for the conditions given below and check the appropriate column.

Observed Conditions	None	Minor	Moderate	Severe
● Collapse, partial collapse, or subsidence or uneven settlement of foundations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Building or story leaning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Structural Damage to Bearing Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Structural Damage to Frame Structure				
Columns	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Beams	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Column-Beam Junction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Walls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Parapet Wall, Architectural Elements, other Falling Hazard	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Subsidence of ground, cracking ground slope movement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Internal Services				
Water supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fire Fighting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
● Site Hazards				
Gas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Electricity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Water Supply	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storm Water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toxic Chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sketches:

Photographers:

## **ANNEXURE – 25**

### **SOPs (Standard Operating Procedures):**

The SOPs are intended to be used by persons who are unfamiliar with disaster management topics but are intended to be task specific and not as replacements for full plans. Through Standard Operating Procedures (SOPs) of Line Departments detailing how specific disaster response actions will be accomplished.

#### **Each Department and Govt. agency involved in Disaster Mgmt and Mitigation will:**

- Designate a Nodal officer for emergency response and will act as the contact person for that department/agency.
- Ensure establishment of fail-safe two-way communication with the state, district and other emergency control rooms and within the organisation.
- Emphasis on communication systems used regularly during L-0 with more focus on the use of VHF's with automatic repeaters, mobile phones with publicised numbers, HF radio sets etc. It should be remembered that SAT phones fail during prolonged emergencies and electric failure if the phones cannot be re-charged.
- Work under the overall supervision of the IC / the District Collectors during emergencies.

#### **SOPs (Standard Operating Procedures) of Line Departments:**

##### **1. Agriculture**

- **Prevention Activities:**
- Awareness generation regarding various plant diseases, alternate cropping practices in disaster-prone areas, Crop Insurance, provision of credit facilities, proper storage of seeds, etc.
- Hazard area mapping (identification of areas pendemic to pest, drought, flood & hazards).
- Develop database village-wise, crop-wise, irrigation source wise, insurance details, credit etc.
- Regular monitoring at taluka level; the distribution and variation in rainfall. Prepare the farmers and department officers to adopt contingency measures and take up appropriate course of action corresponding to the different emerging conditions.
- Detail response manuals to be drawn up for advising the farmers for different types of disasters, e.g., rain failure in July or September & development of a dynamic response plan taking into account weekly rainfall patterns.
- Develop IEC materials to advise the farming communities on cropping practices and precautionary measures to be undertaken during various disasters.
- Improving irrigation facilities, watershed management, soil conservation and other soil, water and fertility management
- Measures keeping in mind the local agro climatic conditions and the proneness of the area to specific hazards.
- Promotion of alternative crop species and cropping patterns keeping in mind the vulnerability of areas to specific hazards.
- Surveillance for pests and crop diseases and encourage early reporting.
- Encourage promotion of agro service outlets/enterprise for common facilities, seed and agro input store and crop insurance.

- **Preparedness Activities before disaster seasons**

- Review and update precautionary measures and procedures, especially ascertain that adequate stock of seeds and other agro inputs are available in areas prone to natural calamities.
- Review the proper functioning of rain gauge stations, have stock for immediate replacement of broken / non-functioning gadgets/equipments, record on a daily basis rainfall data, evaluate the variation from the average rainfall and match it with the rainfall needs of existing crops to ensure early prediction of droughts.

- **Response Activities:**

- Management of control activities following crop damage, pest infestation and crop disease to minimise losses.
- Collection, laboratory testing and analysis of viruses to ensure their control and eradication.
- Pre-positioning of seeds and other agro inputs in strategic points so that stocks are readily available to replace damage caused by natural calamities.
- Rapid assessment of damage to soil, crop, plantation, irrigation systems, drainage, embankment, other water bodies and storage facilities and the requirements to salvage, re-plant, or to compensate and report the same for ensuring early supply of seeds and other agro inputs necessary for re-initiating agricultural activities where crops have been damaged.
- Establishment of public information centres with appropriate and modern means of communication, to assist farmers in providing information regarding insurance, compensation, repair of agro equipments and restarting of agricultural activities at the earliest.

- **Recovery Activities**

- Arrange for early payment of compensation and crop insurance dues.
- Facilitate provision of seeds and other agro inputs.
- Promotion of drought and flood tolerant seed varieties.
- Review with the community, the identified vulnerabilities and risks for crops, specific species, areas, which are vulnerable to repetitive floods, droughts, other natural hazards, water logging, increase in salinity, pest attacks etc. and draw up alternative cropping plans to minimise impacts to various risks.
- Facilitate sanctioning of soft loans for farm implements.
- Establishment of a larger network of soil and water testing laboratories.
- Establishment of pests and disease monitoring system.
- Training in alternative cropping techniques, mixed cropping and other agricultural practices which will minimise crop losses during future disasters.

## **2. Health Department**

### **2.1. Disaster Events**

- **Prevention Activities:**

- Assess preparedness levels at State, District and Taluka levels.
- Identification of areas endemic to epidemics and natural disasters.
- Identification of appropriate locations for testing laboratories.

- Listing and networking with private health facilities.
- Developing a network of volunteers for blood donation with blood grouping data.
- Strengthening of disease surveillance, ensuring regular reporting from the field level workers (ANMs/LHV etc) and its compilation and analysis at the PHC and District levels, on a weekly basis (daily basis in case of an epidemic or during natural disasters), forwarding the same to the State Disease Surveillance Cell and monthly feed back from the State to the district and from the District to the PHC.
- Formation of adequate number of mobile units with trained personnel, testing facilities, communication systems and emergency treatment facilities.
- Identification of locations in probable disaster sites for emergency operation camps.
- Awareness generation about various infectious diseases and their prevention.
- Training and IEC activities
- Training of field personnel, Traditional Birth Attendants, community leaders, volunteers, NGOs and CBOs in first aid, measures to be taken to control outbreak of epidemics during and after a disaster, etc.
- Arrangement of standby generators for every hospitals.
- Listing of vehicles, repair of departmental vehicles that will be requisitioned during emergencies for transport of injured.
- **Preparedness Activities before Disaster Seasons**
- **For heat wave :**
- Preparation and distribution of IEC materials, distribution of ORS and other life-saving drugs, training of field personnel on measures to be taken for management of patients suspected to be suffering from heatstroke;
- For flood and cyclone : Assessment and stock piling of essential medicines, anti snake venom, halogen tablets, bleaching powders. ORS tablets, Pre-positioning of mobile units at vulnerable and strategic points.
- **Response activities:**
- Stock piling of life-saving drugs, detoxicants, anaesthesia, Halogen tablets in vulnerable areas.
- Strengthening of drug supply system with powers for local purchase during Level-0.
- Situational assessment and reviewing the response mechanisms in known vulnerable pockets.
- Ensure adequate availability of personnel in disaster sites.
- Review and update precautionary measures and procedures.
- **Sanitation**
- Dispensing with post-mortem activities during L1, L2 and L3 when the relatives and/or the competent authority are satisfied about cause of death.
- Disinfections of water bodies and drinking water sources.
- Immunization against infectious diseases.
- Ensure continuous flow of information.

- **Recovery Activities**

- Continuation of disease surveillance and monitoring.
- Continuation of treatment, monitoring and other epidemic control activities till the situation is brought under control and the epidemic eradicated.
- Trauma counselling.
- Treatment and socio-medical rehabilitation of injured or disabled persons.
- Immunisation and nutritional surveillance.
- Long term plans to progressively reduce various factors that contribute to high level of vulnerability to diseases of population affected by disasters.

## **2.2 Epidemics**

- **Preventive Activities:**

- Supply of safe drinking water, water quality monitoring and improved sanitation.
- Vector Control programme as a part of overall community sanitation activities.
- Promotion of personal and community latrines.
- Sanitation of sewage and drainage systems.
- Development of proper solid waste management systems.
- Surveillance and spraying of water bodies for control of malaria.
- Promoting and strengthening Primary Health Centres with network of paraprofessionals to improve the capacity of surveillance and control of epidemics.
- Establishing testing laboratories at appropriate locations to reduce the time taken for early diagnosis and subsequent warning.
- Establishing procedures and methods of coordination with the Health Department, other local authorities/departments and NGOs to ensure that adequate prevention and preparedness measures have been taken to prevent and / or minimise the probable outbreak of epidemics.
- Identification of areas prone to certain epidemics and assessment of requirements to control and ultimately eradicate the epidemic.
- Identification of appropriate locations and setting up of site operation camps for combating epidemics.
- Listing and identification of vehicles to be requisitioned for transport of injured animals.
- Vaccination of the animals and identification of campsites in the probable areas.
- Promotion of animal insurance.
- Tagging of animals
- Arrangement of standby generators for veterinary hospitals.
- Provision in each hospital for receiving large number of livestock at a time.
- Training of community members in carcasses disposal.



- **Preparedness activities before disaster seasons**
- Stock piling of water, fodder and animal feed.
- Pre-arrangements for tie-up with fodder supply units.
- Stock-piling of surgical packets.
- Construction of mounds for safe shelter of animals.
- Identification of various water sources to be used by animals in case of prolonged hot and dry spells.
- Training of volunteers & creation of local units for carcass disposal.
- Municipalities / Gram Panchayats to be given responsibility for removing animals likely to become health hazards.
- **Response Activities:**
- Control of animal diseases, treatment of injured animals, Protection of lost cattle.
- Supply of medicines and fodder to affected areas.
- Ensure adequate availability of personnel and mobile team.
- Disposal of carcasses ensuring proper sanitation to avoid outbreak of epidemics.
- Establishment of public information centre with a means of communication, to assist in providing an organised source of information.
- Mobilising community participation for carcass disposal.
- **Recovery Activities:**
- Assess losses of animal's assets and needs of persons and communities.
- Play a facilitating role for early approval of soft loans for buying animals and ensuring insurance coverage and disaster proof housing or alternative shelters/ mounds for animals for future emergencies.
- Establishment of animal disease surveillance system.

### **3. Water Supplies and Sanitation (GWSSB)**

- **Prevention Activities:**
- Provision of safe water to all habitats.
- Clearance of drains and sewerage systems, particularly in the urban areas.
- **Preparedness Activities for disaster seasons**
- Prior arrangement of water tankers and other means of distribution and storage of water.
- Prior arrangement of stand-by generators.
- Adequate prior arrangements to provide water and halogen tablets at identified sites to used as relief camps or in areas with high probability to be affected by natural calamities.
- Raising of tube-well platforms, improvement in sanitation structures and other infrastructural measures to ensure least damages during future disasters.
- Riser pipes to be given to villagers.

- **Response Activities:**

- Disinfections and continuous monitoring of water bodies.
- Ensuring provision of water to hospitals and other vital installations.
- Provision to acquire tankers & other temporary means of distribute water on emergency base.
- Arrangement and distribution of emergency tool kits for equipments required for dismantling and assembling tube wells, etc.
- Carrying out emergency repairs of damaged water supply systems.
- Disinfection of hand pumps to be done by the communities through prior awareness activities & supply of inputs.

- **Recovery Activities:**

- Strengthening of infrastructure.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.

#### **4. Police:**

- **Prevention Activities:**

- Keep the force in general and the RAF in particular fighting fit for search, rescue, evacuation and other emergency operations at all times through regular drills.
- Procurement and deployment of modern emergency equipments while modernising existing infrastructure and equipments for disaster response along with regular training and drills for effective handling of these equipments.
- Focus on better training and equipments for RAF for all types of disasters.
- Rotation of members of GSDRAF so that the force remains fighting fit.
- Ensure that all communication equipments including wireless are regularly functioning and deployment of extra wireless units in vulnerable pockets.
- Ensure inter changeability of VHF communication sets of police and GSDMA supplied units.
- Keeping close contact with the District Administration & Emergency Officer.
- Superintendent of Police be made Vice Chairperson of District Natural Calamity Committee.
- Involvement of the local army units in response planning activities and during the preparation of the contingency plans, ensure logistics & other support to armed forces during emergencies.

- **Response Plan:**

- Security arrangements for relief materials in transit and in camps etc.
- Senior police officers to be deployed in control rooms at State & district levels.
- Deploy personnel to guard vulnerable embankments and at other risk points.
- Arrangement for the safety.
- Coordinate search, rescue and evacuation operations in coordination with the administration

- Emergency traffic management.
- Maintenance of law and order in the affected areas.
- Assist administration in taking necessary action against hoarders, black marketers etc.

## **5. Civil Defence**

### **• Prevention Activities**

- Organise training programmes on first-aid, search, rescue and evacuation.
- Preparation & implementate first aid, search and rescue service plans for major public events.
- Remain fit and prepared through regular drills and exercises at all times.

### **• Response Activities**

- Act as Support agency for provision of first aid, search and rescue services to other emergency service agencies and the public.
- Act as support agency for movement of relief.
- Triage of casualties and provision of first aid and treatment.
- Work in co-ordination with medical assistance team.
- Help the Police for traffic management and law and order.

## **6. Fire Services:**

### **• Prevention Activities:**

- Develop relevant legislations and regulations to enhance adoption of fire safety measures.
- Modernisation of fire-fighting equipments and strengthening infrastructure.
- Identify pockets, industry, etc. which highly susceptible to fire accidents or areas, events which might lead to fires, building collapse, etc. educate people to adopt safety measures.
- Building awareness in use of various fire protection and preventive systems.
- Conduct training and drills to ensure higher level of prevention and preparedness.
- VHF network for fire services linked with revenue & police networks.
- Training of masons & engineers in fireproof techniques.
- Making clearance of building plans by fire services mandatory.

### **• Response Activities:**

- Rescue of persons trapped in burning, collapsed or damaged buildings, damaged vehicles, including motor vehicles, trains and aircrafts, industries, boilers, trenches & tunnels.
- Control of fires and minimising damages due to explosions.
- Control of dangerous or hazardous situations such as oil, gas and hazardous materials spill.
- Protection of property and the environment from fire damage.
- Support to other agencies in the response to emergencies.
- Investigation into the causes of fire and assist in damage assessment.

## **7. Civil Supplies:**

- **Preventive Activities**

- Construction and maintenance of storage godowns at strategic locations.
- Stock piling of food and essential commodities in anticipation of disaster.
- Take appropriate preservative methods to ensure that food and other relief stock are not damaged during storage, especially precautions against moisture, rodents and fungus infestation.

- **Response Activities**

- Management of procurement
- Management of material movement
- Inventory management

- **Recovery Activities**

- Conversion of stored, unutilised relief stocks automatically into other schemes like Food for Work. Wherever, it is not done leading to damage of stock, it should be viewed seriously.

## **8. Public Works/ Rural Development Departments**

- **Prevention Activities :**

- Keep a list of earth moving and clearing vehicles / equipments (available with Govt. Departments, PSUs, and private contractors, etc.) and formulate a plan to mobilise those at the earliest.
- Inspection and emergency repair of roads/ bridges, public utilities and buildings.

- **Response Activities**

- Clearing of roads and establish connectivity. Restore roads, bridges and where necessary make alternate arrangements to open the roads to traffic at the earliest.
- Mobilisation of community assistance for clearing blocked roads.
- Facilitate movement of heavy vehicles carrying equipments and materials.
- Identification and notification of alternative routes to strategic locations.
- Filling of ditches, disposal of debris, and cutting of uprooted trees along the road.
- Arrangement of emergency tool kit for every section at the divisional levels for activities like clearance (power saws), debris clearance (fork lifter) and other tools for repair and maintenance of all disaster response equipments.

- **Recovery Activities:**

- Strengthening and restoration of infrastructure with an objective to eliminate the factor(s) which caused the damage.
- Sharing of experiences and lessons learnt.
- Training to staff, Review and documentation.
- Development of checklists and contingency plans.

## **9. Energy:**

### **• Prevention Activities:**

- Identification of materials/tool kits required for emergency response.
- Ensure and educate the minimum safety standards to be adopted for electrical installation and equipments and organise training of electricians accordingly.
- Develop and administer regulations to ensure safety of electrical accessories and electrical installations.
- Train and have a contingency plan to ensure early electricity supply to essential services during emergencies and restoration of electric supply at an early date.
- Develop and administer code of practice for power line clearance to avoid electrocution due to broken / fallen wires.
- Strengthen high-tension cable towers to withstand high wind speed, flooding and earthquake, modernise electric installation, strengthen electric distribution system to ensure minimum damages during natural calamities.
- Conduct public/industry awareness campaigns to prevent electric accidents during normal times and during and after a natural disaster.

### **• Response Activities:**

- Disconnect electricity after receipt of warning.
- Attend sites of electrical accidents and assist in undertaking damage assessment.
- Stand-by arrangements to ensure temporary electricity supply.
- Prior planning & necessary arrangements for tapping private power plants during emergencies to ensure uninterrupted power supply to vital emergency response agencies.
- Inspection and repair of high tension lines /substations/transformers/poles etc.
- Ensure the public and other agencies are safeguarded from any hazards, which may have occurred because of damage to electricity distribution systems.
- Restore electricity to the affected area as quickly as possible.
- Replace / restore of damaged poles/ salvaging of conductors and insulators.

## **10. GWSSB -Water Supply Department:**

### **• Prevention Activities:**

- Assess preparedness level.
- Annual assessment of danger levels & wide publicity of those levels.
- Identify flood prone rivers and areas and activate flood monitoring mechanisms.
- Provide water level gauge at critical points along the rivers, dams and tanks.
- Identify and maintain of materials/tool kits required for emergency response.
- Stock-pile of sand bags and other necessary items for breach closure at the Panchayat level.

- **Response Activities:**

- Monitoring flood situation.
- Dissemination of flood warning.
- Ensure accurate dissemination of warning messages to GPs & Taluka with details of flow.
- Monitoring and protection of irrigation infrastructures.
- Inspection of bunds of dams, irrigation channels, bridges, culverts, control gates and overflow channels.
- Inspection and repair of pumps, generator, motor equipments, station buildings.
- Community mobilisation in breach closure

- **Recovery Activities:**

- Strengthening of infrastructure and human resources.
- Review and documentation.
- Sharing of experiences and lessons learnt.
- Training of staff.
- Development of checklists and contingency plans.

## **11. Fisheries**

- **Prevention Activities**

- Registration of boats and fishermen.
- Building community awareness on weather phenomena and warning system especially on Do's and Don'ts on receipt of weather related warnings.
- Assist in providing life saving items like life jackets, hand radios, etc.
- Certifying the usability of all boats and notifying their carrying capacities.
- Capacity building of traditional fishermen and improvisation of traditional boats which can be used during emergencies.
- Train up young fishermen in search & rescue operation and hire their services during emergency.

- **Response Activities**

- Ensure warning dissemination to fishing communities living in vulnerable pockets.
- Responsible for mobilising boats during emergencies and for payment of wages to boatmen hired during emergencies.
- Support in mobilisation and additional deployment of boats during emergencies.
- Assess the losses of fisheries and aquaculture assets and the needs of persons and communities affected by emergency.

- **Recovery Activities**

- Provide compensations and advice to affected individuals, community.

## **12. Forest Department**

- **Prevention activities**

- Promotion of shelter belt plantation.
- Publishing for public knowledge details of forest cover, use of land under the forest department, the rate of depletion and its causes.
- Keep saws (both power and manual) in working conditions.
- Provision of seedling to the community and encouraging plantation activities, promoting nurseries for providing seedlings in case of destruction of trees during natural disasters.

## **13. Transport Department:**

- **Prevention Activities**

- Listing of vehicles which can be used for emergency operation.
- Safety accreditation, enforcement and compliance.
- Ensuring vehicles follow accepted safety standards.
- Build awareness on road safety and traffic rules through awareness campaign, use of different IEC strategies and training to school children.
- Ensure proper enforcement of safety regulations Response Activities.
- Requisition vehicles, trucks, and other means of transport to help in the emergency operations.
- Participate in post impact assessment of emergency situation.
- Support in search, rescue and first aid.
- Cooperate and appropriation of relief materials.

- **Recovery Activities**

- Provision of personal support services e.g. Counselling.
- Repair/restoration of infrastructure e.g. roads, bridges, public amenities.
- Supporting the GPs in development of storage and in playing a key role and in the coordination of management and distribution of relief and rehabilitation materials.
- The G.P. members to be trained to act as an effective interface between the community, NGOs, and other developmental organisations.
- Provide training so that the elected representatives can act as effective supportive agencies for reconstruction and recovery activities.

## **14. Panchayati Raj**

- **Preventive Activities**

- Develop prevention/mitigation strategies for risk reduction at community level.
- Training of elected representatives on various aspects of disaster management.
- Public awareness on various aspects of disaster management.
- Organise mock drills.

- Promote and support community-based disaster management plans.
- Support strengthening response mechanisms at the G.P. level (e.g., better communication, local storage, search & rescue equipments, etc.).
- Clean drainage channels, trimming of branches before cyclone season.
- Ensure alternative routes/means of communication for movement of relief materials and personnel to marooned areas or areas likely to be marooned.
- Assist all the government departments to plan and prioritise prevention and preparedness activities while ensuring active community participation.
- **Response Activities**
- Train up the G.P. Members and Support for timely and appropriate delivery of warning to the community.
- Clearance of blocked drains and roads, including tree removal in the villages.
- Construct alternative temporary roads to restore communication to the villages.
- PRIs to be a part of the damage survey and relief distribution teams to ensure popular participation.
- Operationalise emergency relief centres and emergency shelter.
- Sanitation, drinking water and medical aid arrangements.
- IEC activities for greater awareness regarding the role of trees and forests for protection during emergencies and also to minimise environmental impact which results owing to deforestation like climate change, soil erosion, etc.
- Increasing involvement of the community, NGOs and CBOs in plantation, protection and other forest protection, rejuvenation and restoration activities.
- Plan for reducing the incidence, and minimise the impact of forest fire.
- **Response Activities :**
- Assist in road clearance.
- Provision of tree cutting equipments.
- Units for tree cutting and disposal to be put under the control of GSDMA, SRC, Collector during L1.
- Provision of building materials such as bamboos etc for construction of shelters.
- **Recovery Activities :**
- Take up plantation to make good the damage caused to tree cover.

## **15. Information & Public Relations Department**

- **Prevention Activities**
- Creation of public awareness regarding various types of disasters through media campaigns.
- Dissemination of information to public and others concerned regarding do's and don'ts of various disasters.
- Regular liaisoning with the media.



- **Response Activities**

- Setting up of a control room to provide authentic information to public regarding impending emergencies.
- Daily press briefings at fixed times at district level to provide official version.
- Media report & feedback to field officials on a daily basis from L1 onwards.
- Keep the public informed about the latest emergency situation (area affected, lives lost, etc).
- Keep the public informed about various post-disaster assistances and recovery programmes.

**16. Revenue Department**

- Co-ordination with Govt. of Gujarat Secretariat and Officers of Govt. of India
- Overall control & supervision
- Damage assessment, finalisation of reports and declaration of L1/L2 disasters
- Mobilisation of finance

**17. Home Department**

- Requisition, deployment and providing necessary logistic support to the armed forces.
- Provide maps for air dropping, etc.

**18. Gujarat Disaster Rapid Action Force**

- **Response**

- To be trained and equipped as an elite force within the Police Department and have the capacity to immediately respond to any emergency.
- Unit to be equipped with life saving, search & rescue equipments, medical supplies, security arrangements, communication facilities and emergency rations and be self-sufficient.
- Trained in latest techniques of search, rescue and communication in collaboration with international agencies.
- Co-opt doctors into the team.

## **ANNEXURE – 26**

### **Projects for prevention of disasters:**

#### **1. DRM (Disaster Risk Management) Programme:**

DRM (Disaster Risk Management Programme) is one of the major initiatives of Gujarat State Disaster Management Authority to build/strengthen capacity of various stakeholders for an effective response during disasters. The DRM Programme is formulated with a goal of sustainable reduction in disaster risk in most hazard prone districts in Gujarat state.

#### **2. NCRMP (National Cyclone Risk Management Program):**

Gujarat being prone to cyclones, it is the topmost priority of the State Government to reduce the effect of cyclone and minimize the loss to property and lives in the coastal regions of the State through creation of suitable infrastructure. Gujarat has therefore been included in the NCRMP initiated by the National Disaster Management Authority and funded by the World Bank. Two important components i.e. construction of Multi Purpose Cyclone Shelters (MPCS) and construction and repair of missing roads will be implemented as part of NCRMP.

#### **3. School Safety Programme:**

Gujarat School Safety Initiative (GSSI), is the pilot program designed for promoting a culture of disaster safety in schools and reduce risk through structural and non-structural measures in the schools. GSDMA develops Information, Education and Communication material for the purpose of dissemination of information among school students and teaching. Gujarat State Disaster Management Authority has successfully celebrated Gujarat School Safety Week 2017 in all the Government Primary Schools. As a preparatory activity for School Safety Week 2017, 257 master trainers were trained at state level. 53,206 principals and teachers of all government primary schools were trained for preparation of School Disaster Management Plan of their respective schools and for conducting mock drills in schools.

#### **4. Special Flood Rescue Training Programme:**

GSDMA has tied up with a local agency and initiated Special Flood Rescue Training Programme to train volunteers and other stakeholders in flood rescue. The stakeholders include firemen, fire officers, home guards, police, etc.

#### **5. Masons Training / Certification Programme:**

GSDMA is reinitiating Mason Training/Certification Programme for masons in Gujarat State so that the quality of construction in rural and semi-urban areas could be improved. In this regard GSDMA has signed an MoU with L&T for masons training program. The course is basically designed to improve and impart training in confined masonry construction including earthquake resistant construction in rural areas. The main construction sector targeted is housing schemes running under state and central government.

#### **6. Aapda Mitraa:**

As part of capacity building measures, GSDMA is now initiating a project - 'Aapda Mitra' on training of community volunteers in conducting basic search & rescue operations and to assist the district administration for effective disaster response. For successful implementation of this program it is planned that 6 Aapda Mitra would be trained from each District and Taluka. The fully residential training would be conducted at the 11 designated training centres of SDRF/SRPF. The duration of the training would be of 2 weeks. At the end of the training, they would be certified as 'Aapda Mitra' by GSDMA and also provided with an identity card for the same. The 'Aapda Mitra' shall remain present for assistance during any emergency.

## **ANNEXURE - 27**

### **Indicators:**

#### **(A) Important Websites:**

<b>Web Link</b>	<b>In Concern to</b>
<a href="http://sdrn.gsdma.org/Login.aspx">http://sdrn.gsdma.org/Login.aspx</a>	State Disaster Resource Network.
<a href="https://idrn.nidm.gov.in/">https://idrn.nidm.gov.in/</a>	India Disaster Resource Network
<a href="https://mausam.imd.gov.in/imd_latest/contents/satellite.php">https://mausam.imd.gov.in/imd_latest/contents/satellite.php</a>	Satellite Image.
<a href="http://www.imdahm.gov.in/">http://www.imdahm.gov.in/</a>	State Weather Forecast.
<a href="https://isr.gujarat.gov.in/latest-earthquakes-reports">https://isr.gujarat.gov.in/latest-earthquakes-reports</a>	Earthquakes in Gujarat.
<a href="https://incois.gov.in/tsunami/eqevents.jsp">https://incois.gov.in/tsunami/eqevents.jsp</a>	Tsunami Warning.
<a href="http://www.gsdma.org/">http://www.gsdma.org/</a>	Gujarat State Disaster Management Authority.
<a href="https://gidm.gujarat.gov.in/">https://gidm.gujarat.gov.in/</a>	Collectorate Junagadh.
<a href="https://junagadh.gujarat.gov.in/">https://junagadh.gujarat.gov.in/</a>	Collectorate Junagadh.
<a href="https://junagadhdhp.gujarat.gov.in/gu/home">https://junagadhdhp.gujarat.gov.in/gu/home</a>	District Panchayat Junagadh.
<a href="https://spjunagadh.gujarat.gov.in/spjunagadh/default.aspx">https://spjunagadh.gujarat.gov.in/spjunagadh/default.aspx</a>	Police Department Junagadh.
<a href="https://junagadhmunicipal.org/">https://junagadhmunicipal.org/</a>	Municipal Corporation Junagadh.

#### **(B) Acronyms:**

EOC – Emergency Operation Centre, DEOC – District EOC, TEOC – Taluka EOC.  
SDRN – State Disaster Resource Network, IDRN – India Disaster Resource Network.  
GSDMA – Gujarat State Disaster Management Authority.  
GIDM – Gujarat Institute of Disaster Management.  
DRM – Disaster Risk Management, NCRMP – National Cyclone Risk Management Program  
DMC – Disaster Management Committee, DMT – Disaster Management Team.  
TDMP – Taluka Disaster Management Plan, CDMP – City Disaster Management Plan.  
DDMP – District Disaster Management Plan.  
ICS – Incident Command System, IC – Incident Commander.  
IEC – Information, Education and Communication.  
GSWAN – Gujarat State Wide Area Network.  
PRI – Panchayati Raj Institute, ULB - Urban Local Bodies.  
CHC – Community Health Centre, PHC – Primary Health Centre.

#### **(C) Sources of Information:**

1. Departmental Disaster Management Plan of District level Agencies.
2. Flood Memorandum of Irrigation Branch, Junagadh.
3. Statistical outline of District Statistics Department, District Panchayat, Junagadh.
4. Incident Command System Training Materials.
5. NDMA Model District Disaster Management Plan Template
6. State / India Disaster Resource Network Inventory.
7. Weather Station, Agriculture University, Junagadh.
8. Various Emergency Operation Files of Collector Office, Junagadh.
9. District Inspector of land records (DILR) and BISAG.
10. Off Site Emergency Plan of Industrial Safety and Health Department.
11. Village / City / Taluka Disaster Management Plans.
12. The Gujarat State Disaster Management Act, 2003.
13. India Disaster Management Act, 2005



# Contact

# Directory



# 1. Gujarat State's District Level Emergency Contact Nos.

Sr.	District Name	Code No.	Collector			DDO		SP		RAC	DEOC
			Office	Fax	Mobile	Office	Mobile	Office	Mobile	Mobile	Office
1	Ahmedabad	079	27551681	27552144	9978406201	25506487	9978406226	26890440	9978406062	9978405173	27560511
2	Amreli	02792	222307	222710	9978406202	222313	9978406227	222333	9978405063	9978405203	230735
3	Anand	02692	262271	261575	9978406203	241110	9978406228	260027	9978405064	9978405175	243222
4	Banaskantha	02742	257171	252063	9978406204	254060	9978406229	257015	9978405065	9978405176	250627
5	Bharuch	02642	240600	240602	9978406205	240603	9978406230	223633	9978405066	9978405177	242300
6	Bhavnagar	0278	2428822	2427941	9978406206	2426810	9978406231	2520050	9978405067	9978405178	2521554
7	Botad	02849	231301	231302	9978405931	2426810	9978406231	231407	9712415910	9727758035	271340
8	Dahod	02673	239001	239005	9978406207	239066	9978406232	222300	9978405068	9978405179	239277
9	Dang	02631	220201	220294	9978406208	220254	9978406233	220248	9978405021	9978405180	220347
10	Gandhinagar	079	23259030	23259040	9978406209	23222618	9978406234	23210901	9978405070	9978405181	23256639
11	Jamnagar	0288	2555869	2555899	9978406210	2553901	9978406235	2554203	9978405071	9978405210	2553404
12	Devbhumi Dwarka	02833	223804	232102	9978405933	2553901	9978406235	232002	9978405976	9727763794	232804
13	Junagadh	0285	2636100	2635599	9978406211	2635315	9978406236	2635633	9978405250	9978405211	2633448
14	Geer Somnath	02876	240001	243300	9978405934	2651001	9978406236	222250	9978405974	9727756448	240063
15	Kheda	0268	2553334	2553358	9978406212	2557262	9978406237	2550150	9978405072	9978405597	2553356
16	Kutch	02832	220020	250430	9978406213	250080	9978406238	250444	9978405073	9978405212	252347
17	Mehsana	02762	222200	222202	9978406214	222301	9978406239	222122	9978405074	9978405213	222220
18	Narmada	02640	222161	222171	9978406216	222086	9978406241	222315	9979405076	9978405188	224001
19	Navsari	02637	244999	281540	9978406215	244299	9978406240	245333	9978405075	9978405187	259401
20	Panchmahal	02672	242800	242899	9978406217	253377	9978406242	242200	9978405077	9978405189	242536
21	Mahisagar	02674	250666	250655	9978405936	253377	9978406242	250815	7874376004	9727354151	250666
22	Patan	02766	233301	233055	9978406218	232936	9978406243	230104	9978405078	9978405190	224830
23	Porbandar	0286	2221800	2222527	9978406219	2243804	9978406244	2211222	9978405079	9978405191	2220800
24	Rajkot	0281	2473900	2453621	9978406220	2477008	9978406245	2433444	9978405082	9978405218	2471573
25	Morbi	02822	241701	241602	9978405932	247708	9978406245	243471	9978405975	9727759674	2427592
26	Sabarkantha	02772	241001	241611	9978406221	242350	9978406246	247333	9978405081	9978405219	249039
27	Arvalii	02772	247800	247801	9978405935	242350	9978406246	247333	9879910101	9879044388	247810
28	Surat	0261	2652525	2655757	9978406222	2422160	9978406247	2651831	9978405082	9978405220	2465112
29	Surendranagar	02752	2820200	283862	9978406223	283752	9978406248	282100	9978405083	9978405224	283400
30	Tapi	02626	224460	221281	9978405364	222141	9978405263	220400	9978405488	9978405415	223332
31	Vadodara	0265	2423100	2431093	9978406224	2432027	9978406249	2412255	9978406094	9978405196	2427592
32	Chota Udaipur	02669	233003	233002	9978405937	2432027	9978406249	233077	9978405977	9824048430	233022
33	Valsad	02632	253613	243417	9978406225	253184	9978406250	254222	9978405085	9978405253	243238

### 3. District Level Officers Telephone Nos. STD Code - (0285)

Sr.	Designation	Name	Office	Mobile	Fax	Email ID
1	2	3	4	6	7	8
1	Collector	Dr. Sourabh Pardhi (IAS)	2630100	9978406211	2635599	collector-jun@gujarat.gov.in
2	DSP	Shri Ravi Teja Vasamsetty	2635633	9978405250	2634501	dsp-jun@gujarat.gov.in
3	Municipal Commissioner	Shri Tushar sumera	2650450	9426250200	2651510	municipalcorporationjund@yahoo.co.in
4	D D O	Shri Praveen Chaudhary	2635315	9978406236	2636317	ddo-jun@gujarat.gov.in
5	Resi. Addl. Collector	Shri D K Baria	2636666	9978405211	2635599	add-collector-jun@gujarat.gov.in
6	DRDA	Shri R.J. Jadeja	2633179	7567035902	2636080	drda.jun1@gmail.com
7	DSO	Shri N D Govani (I/C)	2631480	7567021546	2635782	dso-jun@gujarat.gov.in
8	SDM- Junagadh	Shri Ankit Pannu (IAS)	2651701	9978405346	2651332	po-jun@gujarat.gov.in
9	SDM- Keshod	Shri Rekhaba Sarvaiya	02871-234018	9978405345	235751	sdm-kesh-jun@gujarat.gov.in
10	SDM- Mendarada	Shri V.D. Sakariya	02872-241001	7567009710	242001	po.mendarda@gmail.com
11	SDM- Visavadar	Shri D.V.Vala	02873-221031	9978405183	221917	prantvsr@gmail.com
12	SDM- Vanthali	Shri N D Govani	02872-223112	9898701071	223111	prant.vanthali123@gmail.com
13	Dy. DDO (Revenue)	Shri D.G.Rathod	2636032	7567017608	2633021	ddo-jun@gujarat.gov.in
14	Dy. DDO (Panchayat)	Shri A. S. Mandot	2632383	9879014770	2633684	ddo-jun@gujarat.gov.in
15	CDHO	Dr. C A Maheta	2633074	7567885111	2633131	cdho.health.junagadh@gmail.com
16	DEO	Shri R. S.Upadhyay	2630151	9909970207	2630151	deo-jun@gujarat.gov.in
17	DPEO	Shri K A Patel	2634136	9909971279	2630151	dpeojunagadh@gmail.com
18	Dy. Muni. Commissioner	Shri J.N. Likhiya	2650450	9099877477	2650450	municipalcorporationjund@yahoo.co.in
19	Dy. Director (Info.)	Shri Arjun Parmar	2627281	9426520131	2651359	cdmo-jun@gujarat.gov.in
20	Fire Officer MNP- Junagadh	Shri Mayur Parmar	2620841	8155902552	2651510	municipalcorporationjund@yahoo.co.in
21	Exe. Engineer (R&B)	Shri L.V. Bariya	2631628 2631905	9979551657	2632473	exe_jun_rnb@yahoo.in
22	Indus. Safety & Health	Shri J.N. Dwivedi	2636946	9824190891	2610786	dydish-jun@gujarat.gov.in
23	Control Room Mam. Disa.	Shri Tanvi Trivedi	2633446 2633448	8160484648	2633449	dismgmt-jun@gujarat.gov.in
24	DPO-GSDMA	Shri Kratu Trivedi	2633447	9426969236 8160313839	2633449	kratustrivedi@gmail.com

25	Control Room Dy Mam.Disa.	Shri Bhavesh Nagrecha	2633446 2633448	9429765213	2633449	dismgmt-jun@gujarat.gov.in
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Taluka Name	Designation	Officer Name (Shri)	Code	(O)	Mobile	Police Station	Email ID
Bhesan	Prant Officer	Shri D.V.Vala	02873	221031	9978405183	253433	<a href="mailto:prantvsr@gmail.com">prantvsr@gmail.com</a>
	Mamlatdar	N.I. Brahmbhatt		253426	7567003129		<a href="mailto:mam-bhesan@gujarat.gov.in">mam-bhesan@gujarat.gov.in</a>
	TDO	Ms.Sradhha B.Bhatt		253422 253902	8160294378		<a href="mailto:tdo-bhesan@gujarat.gov.in">tdo-bhesan@gujarat.gov.in</a>
Junagadh City	Prant Officer	Shri Ankit Pannu (IAS)	0285	2632068	9978405346	2655553	<a href="mailto:po-jun@gujarat.gov.in">po-jun@gujarat.gov.in</a>
	Mamlatdar	Shri N.C.Zinzariya-IC		2634595 2635595	964630409		<a href="mailto:mam-juncity@gujarat.gov.in">mam-juncity@gujarat.gov.in</a>
	TDO	D.D.Vaghela		2627233	7567019834		<a href="mailto:tdo-junagadh@gujarat.gov.in">tdo-junagadh@gujarat.gov.in</a>
Junagadh Rural	Prant Officer	Shri Ankit Pannu (IAS)	0285	2632068	9978405346	2655533	<a href="mailto:po-jun@gujarat.gov.in">po-jun@gujarat.gov.in</a>
	Mamlatdar	Shri N.C.Zinzariya		2627453	7567083152		<a href="mailto:mam-junagadh@gujarat.gov.in">mam-junagadh@gujarat.gov.in</a>
	TDO	D.D.Vaghela		2627233	7567019834		<a href="mailto:tdo-junagadh@gujarat.gov.in">tdo-junagadh@gujarat.gov.in</a>
Keshod	Prant Officer	Rekhaba Sarvaiya	02871	234018	9978405345	236093	<a href="mailto:sdm-kesh-jun@gujarat.gov.in">sdm-kesh-jun@gujarat.gov.in</a>
	Mamlatdar	Shri Hetal Z. Bhaliya		236043	7567003169 9427217748		<a href="mailto:mam-keshod@gujarat.gov.in">mam-keshod@gujarat.gov.in</a>
	TDO	Arpan D. Chavda		235742	7567013507 7383939867		<a href="mailto:tdo-keshod@gujarat.gov.in">tdo-keshod@gujarat.gov.in</a>
	Chief Officer	P.B.Parmar		236018	7567770274		<a href="mailto:municipality_ksd@yahoo.com">municipality_ksd@yahoo.com</a>
Maliya	Prant Officer	V.D. Sakariya	02870	241001 242001	7567009710 9978816726	222254	<a href="mailto:ipmayatra@gmail.com">ipmayatra@gmail.com</a>
	Mamlatdar	P.A. Gohil		222232	7567003078 9426502811		<a href="mailto:mam-maliya@gujarat.gov.in">mam-maliya@gujarat.gov.in</a>
	TDO	A.A.Khuman -(I/C)		222220	9428705656		<a href="mailto:tdo-maliya@gujarat.gov.in">tdo-maliya@gujarat.gov.in</a>
	Chief Officer CHorvad	J.V.Dholiya Sir		288647	9426265728		<a href="mailto:np_chorwad@yahoo.co.in">np_chorwad@yahoo.co.in</a>
Manavadar	Prant Officer	N.D. Govani (I/C)	02874	221440	9898701071	221026	<a href="mailto:prant.vanthali123@gmail.com">prant.vanthali123@gmail.com</a>
	Mamlatdar	Shri N.H. Ram		221440	7567003135 9924769051		<a href="mailto:mam-manavadar@gujarat.gov.in">mam-manavadar@gujarat.gov.in</a>
	TDO	M.J.Bambhaniya(I/C)		221238	7567019094 9924117009		<a href="mailto:tdo-manavadar@gujarat.gov.in">tdo-manavadar@gujarat.gov.in</a>
	Chief Officer Batava	Mukeshbhai.M Vaghela		241535	8160307433		<a href="mailto:bantwa_np@yahoo.com">bantwa_np@yahoo.com</a>
	Chief Officer Manavadar	H.K. Nandaniya		221260	9979120333		<a href="mailto:np_manavadar@yahoo.co.in">np_manavadar@yahoo.co.in</a>
Mangrol	Prant Officer	Rekhaba Sarvaiya	02878	234018	9978405345	222033	<a href="mailto:sdm-keshod@gujarat.gov.in">sdm-keshod@gujarat.gov.in</a>
	Mamlatdar	. . Raichura		222009	7567003098		<a href="mailto:mam-mangrol@gujarat.gov.in">mam-mangrol@gujarat.gov.in</a>
	TDO	A.B.Joshi		222014	7567019021 9898940529		<a href="mailto:tdo-mangrol@gujarat.gov.in">tdo-mangrol@gujarat.gov.in</a>
	Chief Officer	Mehul Jodhpura		223077	9825049312		<a href="mailto:np_mangrol@yahoo.co.in">np_mangrol@yahoo.co.in</a>

Taluka Name	Designation	Officer Name (Shri)	Code	(O)	Mobile	Police Station	Email ID
Mendarda	Prant Officer	V.D. Sakariya	02872	241001	7567009710 9978405183	241369	po.mendarda@gmail.com
	Mamlatdar	Fatema J. Makda		241329	8866716039		mam-mendarada@gujarat.gov.in
	TDO	D.V. Khunti		241337	7567013504 9913041872		tdo-mendarada@gujarat.gov.in
Vanthali	Prant Officer	N.D. Govani (I/C)	02872	223112	9898701071	222055	prant.vanthali123@gmail.com
	Mamlatdar	K.K. Padia		222046	7567003383 9426287288		mam-vanthali@gujarat.gov.in
	TDO	P.L. Vaghani		222044	7567056920 8128953600		tdo-vanthali@gujarat.gov.in
	Chief Officer	N.V.Barot		222039	9727170923		np_vanthali@yahoo.co.in
Visavadar	Prant Officer	Shri D.V.Vala	02873	221031	9978405183	222061	prantvsr@gmail.com
	Mamlatdar	Bhumiben Keshvala		222056	7567003232		mam-visavadar@gujarat.gov.in
	TDO	R.V.Manavadariya (I/C)		222057	7567013461 9428703687		tdo-visavadar@gujarat.gov.in
	Chief Officer	C.B.Rathava		222037	9099795503		np_visavadar@yahoo.co.in

#### 4. List of Taluka Level Important Phone Numbers.

Sr.	Taluka	STD Code No.	Mamalatdar		TDO		Police Station	
			Office	Fax	Office	Fax	Office	Fax
1	Junagadh	0285	2627453	2651332	2627233	2651131	2655533	2655770
2	Junagadh City	0285	2621596	2621597	2627233	2651131	2653322	2657719
3	Bhesan	02873	253426	253455	253422	253902	253433	253433
4	Mendarda	02872	241329	242129	241337	241097	241369	241369
5	Vanthali	02872	222046	222415	222044	221238	222055	222055
6	Manavadar	02874	221440	223240	221238	221440	221026	221770
7	Visavadar	02873	222056	221917	222057	222057	222061	222061
8	Keshod	02871	236043	232773	235742	235742	236093	236093
9	Mangrol	02878	222009	222399	222014	224345	222033	222033
10	Maliya	02870	222232	222230	222220	222702	222254	222254

#### 5. Detail & Contacts of Liaison Officers

Sr. No.	Liaison Taluka	Liaison Officer's Designation	Contact Details		
			Phone	Fax	Mobile
1	Junagadh (City-Rural)	SDM-Junagadh (STD-0285)	2631068	2632068	9978405346
2	Keshod	SDM-Keshod (STD-02871)	234018	235751	9978405345
3	Visavadar	SDM- Visavadar (STD-02873)	221031	221031	9978405183
4	Vanthali	SDM-Vanthali (STD-02872)	223112	223111	8764400439
5	Mendarda	SDM – Mendarda (STD-02872)	241001	242001	7567009710



6	Bhesan	Deputy Director of Agriculture (V.JA) (STD-0285)	2630527	-	9909400818
7	Manavadar	Deputy Director of Agriculture (Training) (STD-0285)	2631091	-	9429607173
8	Mangrol	Deputy Director Indus.Safety & Health (STD-0285)	2636946	-	9824190891
9	Maliya Hatina	Assistant Commercial Tax Commissioner (STD-0285)	2630781	-	9825096538

#### 6. Municipal Corporation- Junagadh Officers's Contacts.

Sr.	Officer's Name	Designation	Office Ph.	Mobile No.
1	Mr. Tushar Sumera (IAS)	Commissioner	2650450	—
2	Mr. J. N. Likhia	Dy. Commissioner	—	90998 77477
3	Mr. M. K. Nandaniya	Chief Auditor	—	99099 22526
4	Mr. L. K. Vadher	City Engineer	2622311	98252 20334
5	Mr. K. G. Toliya	Secretary	2650452	81286 46099
6	Mr. L. K. Vadher	Sr. Town Planning Officer	—	98252 20334
7	Mr. A. P. Chavada	Water Works Engineer	—	94260 27921
8	Dr. Ravi Dedaniya	Medical Officer of Health	—	97277 02833
9	Mr. J. P. Vaja	Asst. Commissioner (Adm.)	2622011	81286 56100
10	Mr. Praful Kaneriya	Asst. Commissioner (Tax)	2622089	96014 22777
11	Mr. A. H. Makwana	Transport Officer	2629131	94262 87803
12	Mr. Kirit H. Adhiya	Establishment Officer	—	9879362371
13	Mr. Jignesh Parmar	Office Superintendent	—	98249 48949
14	Mr. Haja Chudasma	Electric Engineer	2624452	8128671511
15	Mr. Umedsinh Solanki	House Tax Supri.	2626620	99131 30585
16	Miss Nituben Vyas	P. R. O.	2626801	—
17	Mr. K. G. Tolia	Revenue, Tax Supervisor	2626620	81286 46099
18	Mr. R. S. Dangar	Sanitation Superintendent	—	99254 36214
19	Mr. Bharatbhai Murbiya	Store Keeper	—	98249 28826
20	Mr. Manoj Pandya	Chief Surveyer	2622011	94262 05992
21	Mr. R. K. Kuchhadiya	Dy. Ex. Engineer	2622011	81286 56080
22	Mr. Dipak Gauswami	Dy.Ex. Engineer	—	94284 38432
23	Mr. Hitesh Vamja	Dy. Ex. Engineer	2622011	98981 46865
24	Mr. Sanjiv Maheta	Birth-Death Branch	—	97246 86901
25	Mr. Bharatbhai Dodiya	Estate officer	—	96622 51507
26	Mr. Anilbhai Vala	Labor Officer	—	94263 71799
27	Mr. Viral Joshi	Shop Inspector	2650450	94289 53422
28	Mr. Hiteshbhai P. Kariya	Legal Officer	2622011	9998359060
20	Mrs. Shobhna Rupapra	Prin., Narsinh Vidya Mandir	2620388	94286 26057
30	Mr. Hareshbhai Gohel	Timbavadi Zonal Officer	2674250	9428702203
31	Mr. Bhimbhai Divaraniya	Dolatpara Zonal Officer	2660007	98795 56933
32	Mr. Dilipbhai Dangar	Joshipara Zonal Officer	2612316	
33	Mr. Aashish Kodyatar	Accountas Officer	2622089	9727322052

34	Mr. Mehul P. Balas	E.D.P. Manager	–	72289 38100
35	Mr. Hayatkhan Ghorl	Drainage Supervisor	–	8511171559
36	Mr. Mayur Parmar	Fire Officer	2620841	8155902552
37	Mr. Uday L. Nandaniya	Food Inspector	–	98989 36898
38	Mr. Hitesh Parmar	Garden Supervisor	–	98252 20334
39	Mr. Rajesh Triwedi	Environmental Engineering	–	94289 53499
40	Vipulbhai D. Morjariya	PA to Commissioner	–	94272 18004
42	Mr. Chetan D. Bhatt	PA to Deputy Commissioner	–	96625 43543
41	Mr. Iqubalbhai Sida	Election branch	–	95378 03501
42	Mr. Chatan Tank	PA to Mayor	2650452	94266 66360
43	Mr. Dinkarbhair Dave	Dy. Adhikshak, Vriddhashram	2626328	8511166915
44	Mrs. Ranjanben P. Solanki	Project Officer, U.C.D	9913447960	–
45	Mr. Jitendrasinh R Chauhan	Admin. and Account (UHS)	–	97277 02834

## 7. Junagadh Police Contact Directory

Sr.	Designation	STD Code	Phone Number		Fax Number
			Office	Home	
1	S.P. Junagadh	0285	2635633	2655644	2634501
2	Dy.S.P.HQ Junagadh	0285	2634401		2634501
3	Dysp. Junagadh	0285	2651135	2650601	2651135
4	Dy.S.P. Keshod	02871	236684	236321	236684
5	I/C Dy.S.P. Mangrol	02878	222134	222094	222134
6	Dy.S.P. Sc/St cell Jnd	0285	2629606		2650501
7	P.I. LIB	0285	2654601	-	2634501
8	I/C P.I. LCB	0285	2623850	-	2634501
9	P.I. A Divi Junagadh	0285	2655778 2655533	2655534	2655533
10	P.I. B Divi Junagadh	0285	2653322 2657719	2626004	2657719
11	I/C P.I. Visavadar	02873	222061	222498	222061
12	P.I. Keshod	02871	236093	233651	236093
13	P.I. Women	0285	2654199	2624465	-
14	I/C C.P.I. Mangrol	02878	223594	225146	222033
15	C.P.I. Manavadar	02874	221726	223755	221770
16	I/C C.P.I. Junagadh	0285	2654566	2657946	
17	PSI C Divi Junagadh	0285	2673544		2673544
18	PSI Junagadh Rural	0285	2655770	2636568	2655770
19	PSI Bhesan	2873	253433	253161	253433
20	PSI Bilkha	0285	2683133	2683833	2683133
21	PSI Mendarda	02872	241369	242660	241369
22	PSI Vanthli	02872	222055	222279	222055
23	PSI Manavadar	02874	221770	223226	221770
24	PSI Bantva	02874	241522	240244	241522

25	PSI sheel	02878	281335	281900	281335
26	PSI Mangrol	02878	222033	225144	222033
27	PI Mangrol Marin	02878	222033		222033
28	PSI Chorwad	02870	288505	288499	288505
29	I/C PSI Maliya	02870	222254	222388	222254
30	PI City Traff Branch Jnd	0285	2655880	-	2634501
31	PSI SP to Reder Branch	0285	2630603	-	2634501
32	I/C PI SOG Junagadh	0285	2623601	-	2634501
33	PSI MOB Jnd SP Office	0285	2634721		2634501
34	PSI BHAVNATH	0285	2653277	-	2653277

## 8. List of Trained Aapda Mitra Volunteers of Junagadh District

Sr.	Name of Volunteer	Contact No	Taluka	Village	Agency
1	Vaghela Sureshbhai Hamirbhai	9601907033	Bhesan	Bhesan	GRD
2	Solanki Salimbhai Husenbhai	9726115916	Bhesan	Mendpara	GRD
3	Panna Harji Savjibhai	8140547610	Bhesan	Bhesan	Homeguard
4	Bhatt Dixitbhai Hariprasad	9428573816	Junagadh	Junagadh	Homeguard
5	Vijay Karshanbhai Bhuvra	9427385327	Junagadh	Joshiyura	Homeguard
6	Dabhi Kartikbhai Govindbhai	7405334630	Junagadh	Khamdhol	Homeguard
7	Chauhan Jayesh Mansukhbhai	9725952984	Junagadh	Katharota	GRD
8	Sapariya Mahendra Mohanbhai	7600502666	Junagadh	Bagadu	GRD
9	Landha Aaman Pirmamadbhai	9726077402	Junagadh	Khadiya	GRD
10	Sapariya Govindbhai Madhabhai	9925424896	Junagadh	Bagadu	GRD
11	Makavana Nanjibhai Hamirbhai	9624933059	Junagadh	Khadiya	GRD
12	Bagada Chirag Laxmanbhai	8264151495	Junagadh (Rural)	Anandpur	GRD
13	Gita Vikrambhai Jugal	7016427446	Junagadh (Rural)	Khadiya	NSS
14	Kambaliya Riddhi Hardasbhai	9913955146	Junagadh (Rural)	Khadiya	NSS
15	Ritu Maheshbhai Visharoliya	9879877442	Junagadh (Rural)	Palasava	NSS
16	Jivandas Devidasbhai Hariyani	7567283180	Junagadh City	Junagadh	GRD
17	Dabhi Satish Kadavabhai	8347535580	Junagadh City	Junagadh	Home guard
18	Raniga Manishbhai Jitendrabhai	9712317102	Junagadh City	Junagadh	Home guard
19	Daxa Chanabhai Bela	9726506181	Junagadh City	Junagadh	NSS
20	Ramjibhai Karshanbhai Ajakiya	9925872751	Keshod	Balagam	GRD
21	Joshi Sudhir Balkrishnabhai	8000411171	Keshod	Keshod	Fireman
22	Narendra Vallabhbhai Kalaniya	9624342779	Keshod	Keshod	GRD
23	Mukesh Vashrambhai Vaghela	9725030064	Keshod	Keshod	GRD
24	Chandvaniya Sanjay Rasikbhai	9924351901	Keshod	Keshod	Home guard
25	Gohil Viren Kalubhai	9998258782	Keshod	Keshod	Home guard
26	Khaniya Vasantkumar Shantilal	9924126214	Keshod	Kevadra	GRD
27	Pravinpari Prempari Gauswami	9725092163	Keshod	Nonjanvav	GRD
28	Ashvin Bhurabhai Chudasama	7359900997	Keshod	Nonjanvav	GRD
29	Vadhiya Ranjit Abhubhai	9909581121	Keshod	Rangpur	Fireman
30	Ghodasara Jignesh Madhavjibhai	8980608638	Keshod	Rangpur	Fireman
31	Chudasama Mayur Madhavjibhai	9638941742	Keshod	Rangpur	Home guard
32	Mahida Mansukhbhai Dayabhai	9737730147	Keshod	Ranigpara	GRD
33	Gohil Bhikhabhai Punjabhai		Keshod		GRD
34	Chavda Mansukhbhai Babubhai	9978304679	Keshod		GRD
35	Solanki Madhabhai Bijalbhai	9723833921	Keshod		GRD
36	Parmar Devashibhai Karshanbhai	9510087760	Keshod		GRD
37	Vaishali Navanitbhai Bhalodiya	7874535188	Maliya Hatina	Avaniya	NSS
38	Sekhava Ranjitbhai Nagabhai	9879650180	Maliya Hatina	Chorwad	GRD
39	Makadiya Dineshbhai Rupabhai	9624521277	Maliya Hatina	Chorwad	GRD
40	Joshi Naimish Vishnukumar	8537352564	Maliya Hatina	Chorwad	SRD
41	Vaja Rameshbhai Madhabhai	8153927611	Maliya Hatina	Juthal	GRD
42	Bamrotiya Kishor Harsukhbhai	9904299228	Maliya Hatina	Khambhaliya	GRD
43	Bamrotiya Ketan Haresbhai	9978254899	Maliya Hatina	Khambhaliya	GRD
44	Chandera Govind Sarmanbhai	9998596018	Maliya Hatina	Khambhaliya	GRD
45	Chavada Ramabhai Nathubhai	6359108403	Maliya Hatina	Khambhaliya	GRD
46	Chavada Gigan Danabhai	8980891734	Maliya Hatina	Khambhaliya	GRD
47	Gondaliya Sanjay Dhirajlal	9904297040	Maliya Hatina	Khambhaliya	GRD
48	Ravaliya Sagar Rambhai	7359528417	Maliya Hatina	Khambhaliya	Volunteer
49	Kamaliya Divyesh Devashibhai	8140431538	Maliya Hatina	Khambhaliya	Volunteer
50	Chandera Arjanbhai Jadavbhai	9601894587	Maliya Hatina	Khambhaliya	Volunteer
51	Patat Karshan Samatbhai	8347626003	Maliya Hatina	Khambhaliya	Volunteer

Sr.	Name of Volunteer	Contact No	Taluka	Village	Agency
52	Patat Anilbhai Markhibhai	9265530170	Maliya Hatina	Khambhaliya	Volunteer
53	Chandera Hiren Ranmalbhai	8153088993	Maliya Hatina	Khambhaliya	Volunteer
54	Chauhan Karansinh Laljibhai	7600965008	Maliya Hatina	Maliya	GRD
55	Sisodiya Hathisinh Bhanabhai	9978781362	Maliya Hatina	Maliya	Home guard
56	Vaja Bharatbhai Bhikhabhai	9228368141	Maliya Hatina	Chorwad	GRD
57	Gohel Vijay Popat	8758953014	Maliya Hatina	Galodar	GRD
58	Vala Hitesh Kanjibhai	9638179135	Maliya Hatina	Khera	GRD
59	Chandpa Hareish Nathabhai	9601075004	Maliya Hatina	Khorasa	GRD
60	Vadhavana Hanif Ibrahimbhai	9913044429	Maliya Hatina	Sarkadiya	GRD
61	Mungara Mukesh Jivrajbhai	9925184034	Maliya Hatina	Tarsingda	GRD
62	Khaniya Vaju Ramabhai	9724491424	Maliya Hatina	Viradi	GRD
63	Khaniya Hareish Gordhanbhai	9727340735	Maliya Hatina	Virdi	GRD
64	Sindhav Bharat Bavabhai	9904234630	Maliya Hatina	Vadiya	Home guard
65	Bhupatbhai Virjibhai Nanecha	7698815855	Maliya Hatina	Vadala	Homeguard
66	Banesinh Tharanbhai Sosodiya	9106372670	Maliya Hatina	Maliya	Homeguard
67	Ram Jagdish Surabhai		Maliya Hatina	Khambhaliya	GRD
68	Patat Nayan Karshanbhai		Maliya Hatina	Khambhaliya	GRD
69	Parmar Chandresh Vinodbhai		Maliya Hatina	Chorwad	GRD
70	Ram Parbatbhai Karshanbhai		Maliya Hatina	Khambhaliya	GRD
71	Patat Ashokbhai Nathabhai		Maliya Hatina	Khambhaliya	GRD
72	Chauhan Ghanshyam Savaji	7228879779	Manavadar	Bantwa	GRD
73	Mori Chirag Rudabhai	9898733704	Manavadar	Bantwa	Volunteer
74	Mori Jaykumar Jethabhai	9723049212	Manavadar	Bantwa	Volunteer
75	Kodiyatar Kinal Jagmalbhai	7016460729	Manavadar	Bantwa	Volunteer
76	Karamta Varjangbhai Panchabhai	9662642323	Manavadar	Bantwa	Volunteer
77	Parmar Jayantibhai Nathabhai	9538004772	Manavadar	Bhalechada	Home guard
78	Rada Hirabhai Khimabhai	9537186533	Manavadar	Bhalgam	GRD
79	Kaba Ramnikbhai Govindbhai	9879919943	Manavadar	Khadiya	GRD
80	Sarikhada Kamleshbhai Lakhabhai	9737363709	Manavadar	Manavadar	Home guard
81	Theba Jahirbhai Osmanbhai	9638005019	Manavadar	Manavadar	Home guard
82	Jadeja Kuldipsinh Pruthvirajsinh	8140104303	Manavadar	Manavadar	Home guard
83	Parmar Rameshbhai Muljibhai	9974665824	Manavadar	Nanadiya	GRD
84	Parmar Pravinbhai Nathabhai	9624100621	Manavadar	Nanadiya	GRD
85	Parmar Raju Meghajibhai	9978755154	Manavadar	Manavadar	Homeguard
86	Rathod Naresh Ravjibhai	9265918544	Manavadar	Manavadar	Homeguard
87	Karangiya Hiteshbhai Nathubhai	7990017171	Manavadar	Limbuda	GRD
88	Chavada Maheshbhai Babubhai	9106947492	Manavadar	Chudava	GRD
89	Parmar Mahesh Chanabhai	9558139037	Manavadar	Chudava	GRD
90	Rathod Jentibhai Naranbhai	9722886751	Manavadar	Kothariya	GRD
91	Kathad Hitesh Somabhai	7096474469	Mangrol	Ajak	GRD
92	Maru Ramabhai Kalabhai	9662707273	Mangrol	Ajak	GRD
93	Kathad Ravaji Somabhai	9898975942	Mangrol	Ajak	GRD
94	Maru Narsinhbhai Danabhai	9913683885	Mangrol	Ajak	GRD
95	Hardasbhai Danabhai Kathad	9714586319	Mangrol	Ajak	GRD
96	Jayesh Hardasbhai Kathad	8347494752	Mangrol	Ajak	GRD
97	Harshad Hamirbhai Jadav	9879050196	Mangrol	Ajak	GRD
98	Gopalbhai Lakhabhai Kathad	9537476370	Mangrol	Ajak	GRD
99	Praful Gopalbhai Kathad	9537476370	Mangrol	Ajak	GRD
100	Manji Tulsibhai Mevada	9714536811	Mangrol	Bamanvada	GRD
101	Jaydip Kiranbhai Solanki	9574549395	Mangrol	Bamanvada	GRD
102	Nilesh Arjan Nandaniya	8238583985	Mangrol	Loyej	GRD
103	Mukesh Ramde Makvana	8238043404	Mangrol	Chakhava	GRD
104	Anil Viram Makvana	9624386476	Mangrol	Chakhava	GRD

<b>Sr.</b>	<b>Name of Volunteer</b>	<b>Contact No</b>	<b>Taluka</b>	<b>Village</b>	<b>Agency</b>
105	Chandresh Rajabhai Daki	9773214334	Mangrol	Chakhava	GRD
106	Shailesh Ramdebhai Makvana	8140526359	Mangrol	Chakhava	GRD
107	Gondaliya Alpesh Shamaldas	9773226594	Mangrol	Dhelana	GRD
108	Naresh Raja Vadher	9723387725	Mangrol	Farangta	GRD
109	Pravin Hirabhai Vadher	9909198261	Mangrol	Farangta	GRD
110	Vijay Dayabhai Vadher	9687316119	Mangrol	Farangta	GRD
111	Parag Rajshibhai Vadher	9723001812	Mangrol	Farangta	GRD
112	Umesh Mansukhbhai Vadher	9081157205	Mangrol	Farangta	GRD
113	Hasmukh Mansukhbhai Vadher	9925814467	Mangrol	Farangta	GRD
114	Jigar Kantilal Gharsanda	9723721436	Mangrol	Farangta	GRD
115	Rahul Vejanand Gharsanda	9924254121	Mangrol	Farangta	GRD
116	Kailash Arvindbhai Chauhan	7046444518	Mangrol	Farangta	GRD
117	Mahavadiya Mukesh Mangabhai	9924678773	Mangrol	Ghodadar	GRD
118	Pravin Bajendra Kathad	9824077040	Mangrol	Kankasa	GRD
119	Bechar Khimji Kathad	9909359012	Mangrol	Kankasa	GRD
120	Deva Lakhabhai Karmata	9998266999	Mangrol	Kankasa	GRD
121	Govind Sejabhai Karmata	9714927712	Mangrol	Kankasa	GRD
122	Anil Hamirbhai Makadiya	7874019562	Mangrol	Kankasa	GRD
123	Pankaj Khimjibhai Kathad	9687412181	Mangrol	Kankasa	GRD
124	Devmurari Varun Yogeshbhai	7359149349	Mangrol	Mangrol	GRD
125	Kavaiya Kishan Satishbhai	9099639916	Mangrol	Mangrol	GRD
126	Borecha Dipak Mohanbhai	9624241182	Mangrol	Mangrol	Home guard
127	Mahesh Vejabhia Vadher	7283958039	Mangrol	Nandarkhi	GRD
128	Vinod Ramabhai Vadher	9714481881	Mangrol	Nandarkhi	GRD
129	Kanti Rameshbhai Chudasama	8140109071	Mangrol	Nandarkhi	GRD
130	Raju Ramabhai Vadher	9081089233	Mangrol	Nandarkhi	GRD
131	Shantilal Vejabhai Vadher	7283958039	Mangrol	Nandarkhi	GRD
132	Vinod Mohanbhai Chudasama	8140758951	Mangrol	Nandarkhi	GRD
133	Kamlesh Rajabhai Vadher	8140046169	Mangrol	Nandarkhi	GRD
134	Kamlesh Rameshbhai Chudasama	7283956067	Mangrol	Nandarkhi	GRD
135	Solanki Jaydip Nathabhai	9687834661	Mangrol	Nava Kotada	Home guard
136	Ashok Sidibhai Daki	9574547529	Mangrol	Sangavada	GRD
137	Kara Babubhai Malam	9537624851	Mangrol	Sangavada	GRD
138	Naresh Kanabhai Malam	9925869308	Mangrol	Sangavada	GRD
139	Hamir Hirabhai Malam	9574485332	Mangrol	Sangavada	GRD
140	Vrajlal Kanabhai Malam	8347752400	Mangrol	Sangavada	GRD
141	Hareish Ramabhai Chudasama	9725725827	Mangrol	Sangavada	GRD
142	Sunil Chanabhai Daki	7046073173	Mangrol	Talodra	GRD
143	Vijay Chanabhai Daki	9978358197	Mangrol	Talodra	GRD
144	Vipul Lilabhai Daki	9913152074	Mangrol	Talodra	GRD
145	Divyesh Gijubhai Bharada	9723769565	Mangrol	Talodra	GRD
146	Sivaji Jentibhai Chudasama	7359395343	Mangrol	Talodra	GRD
147	Farukbhai Ibrahimbhai Soneji	8735059308	Mangrol	Shil	GRD
148	Solanki Karan Ranabhai	7096854770	Mangrol	Juna Kotada	Homeguard
149	Solanki Gautam Ranabhai	9727676944	Mangrol	Juna Kotada	Homeguard
150	Bharda Anilbhai Naranbhai	8306703154	Mangrol	Shil	Homeguard
151	Bharada Hirenkumar Karsanbhai	9687864807	Mangrol	Shil	Homeguard
152	Garchar Devabhai Punabhai	7265952144	Mangrol	Khodada	GRD
153	Garchar Karshanbhai Punabhai	9737680767	Mangrol	Khodada	GRD
154	Garchar Dasabhai Pethabhai	9979590637	Mangrol	Khodada	GRD
155	Chudasama Mahobatsinh Dolu	8128344556	Mangrol	Rahij	GRD
156	Chudasama Sukhdebsinh Dolu	8200981031	Mangrol	Rahij	GRD
157	Chudasama Pradipsinh Jalamsinh	6355831205	Mangrol	Rahij	GRD

Sr.	Name of Volunteer	Contact No	Taluka	Village	Agency
158	Chhelana Lakhmanbhai Ebhabhai	9904582288	Mangrol	Rahij	GRD
159	Parmar Nilesb Ramnikbhai	9824203767	Mendarda	Mendarda	Home guard
160	Makvana Harsukh Govindbhai	9825747953	Mendarda	Mendarda	Home guard
161	Gediya Jayeshbhai Pravinbhai	7359305303	Mendarda	Mendarda	GRD
162	Makvana Abudhbhai Amarabhai	7874657690	Mendarda	Mendarda	GRD
163	Parmar Rajeshbhai Ratilal	9574458649	Vanthali	Dungari	Home guard
164	Parmar Dinesh Mangabhai	9913534250	Vanthali	Ganthila	GRD
165	Parmar Narotam Bhikhubhai	9913738954	Vanthali	Ganthila	GRD
166	Ladani Kishorbhai Jamnadasbhai	9978904035	Vanthali	Ganthila	GRD
167	Parmar Mukesh Nathubhai	9638919451	Vanthali	Ganthila	GRD
168	Parmar Jatin Mansukhbhai	9737087588	Vanthali	Ganthila	GRD
169	Chauhan Kamlesh Ramji	9664656001	Vanthali	Ganthila	GRD
170	Tilavat Chandrakant Zaverdas	9558628520	Vanthali	Ravani	GRD
171	Makavana Jeshing Danabhai	8141480063	Vanthali	Thanapipali	GRD
172	Makvana Vallabh Devashibhai	9712491296	Vanthali	Thanapipali	GRD
173	Boricha Naresh Punjabhai	9898463555	Vanthali	Thanapipali	GRD
174	Makavana Mahendra Danabhai	9909060337	Vanthali	Thanapipali	GRD
175	Chauhan Raymal Govind	9687033504	Vanthali	Khorasa	GRD
176	Charoliya Mukesh Mansukhbhai	9104004498	Visavadar	Kalsari	GRD
177	Meghnathi Kailashgiri Umedgiri	9925251036	Visavadar	Moniya	GRD
178	Meghnathi Dipakgiri Umedgiri	9978359130	Visavadar	Moniya	GRD
179	Aparnathi Mahugiri Manugiri	8141671637	Visavadar	Prempara	GRD
180	Rathod Arvind Madhavjibhai	9924680717	Visavadar	Visavadar	GRD
181	Rathod Sunil Naranbhai	7575871905	Visavadar	Moniya	GRD
182	Sameja Sadam Husenbhai	9409274108	Visavadar	Visavadar	GRD
183	Vala Ramnikbhai Karshanbhai	9913388082	Visavadar	Manandiya	GRD
184	Rathod Sandip Bhojabhai	9624842765	Visavadar	Juni chavand	GRD
185	Sagathiya Alpeshbhai Maganbhai	9909368515	Visavadar	Ambala	GRD

#### Aapda Mitra Summary:

District Total: 185				
Bhesan: 03	Junagadh (Rural): 09	Junagadh City: 07	Keshod: 17	Maliya Hatina: 35
Manavadar: 19	Mangrol: 68	Mendarda: 04	Vanthali: 13	Visavadar: 10



#### District Emergency Operation Centre

Disaster Management Branch, Nr. Bahumali Bhavan, Sardar Baug, Junagadh. 362001.

Ph. : 0285- 2633446  
- 2633447 , 1077

Fax : 0285 - 2633449

E-Mail : [dismgmt-jun@gujarat.gov.in](mailto:dismgmt-jun@gujarat.gov.in)

Updaetd as on -05-2021

### Latitude-Logitude JND\_Vlg Details

BHESAN	Bamangadh	21.63	70.65
BHESAN	Barwala	21.60	70.76
BHESAN	Bhatgam	21.61	70.61
BHESAN	Bhesan	21.55	70.70
BHESAN	Cala Gadba	21.50	70.57
BHESAN	Chanaka	21.50	70.72
BHESAN	Chhodvadi	21.52	70.65
BHESAN	Chuda	21.59	70.81
BHESAN	Damrala	21.53	70.88
BHESAN	Dholwa	21.62	70.79
BHESAN	Dudhala	21.58	70.60
BHESAN	Galath	21.58	70.78
BHESAN	Gorakhpur	21.49	70.70
BHESAN	Gorviyali	21.52	70.83
BHESAN	Hadmatiya Khajuri	21.61	70.74
BHESAN	Hadmatiya Khakhra	21.56	70.83
BHESAN	Hadmatiya Vishal	21.61	70.58
BHESAN	Juni Dhari Gundali	21.52	70.79
BHESAN	Kariya	21.56	70.61
BHESAN	Khambhaliya	21.58	70.68
BHESAN	Kharachiya	21.59	70.63
BHESAN	Malida	21.56	70.59
BHESAN	Mandva	21.61	70.66
BHESAN	Mathura Thana	21.45	70.58
BHESAN	Mendpara	21.59	70.60
BHESAN	Morwada	21.54	70.84
BHESAN	Mota Gujariya	21.49	70.75
BHESAN	Nana Gujariya	21.50	70.74
BHESAN	Nava Vaghaniya	21.50	70.63
BHESAN	Navi Dhari Gundali	21.52	70.79
BHESAN	Parab Vavdi	21.58	70.73
BHESAN	Paswala	21.56	70.60
BHESAN	Patla	21.60	70.57
BHESAN	Paturan	21.54	70.58
BHESAN	Patwad	21.54	70.60
BHESAN	Pipaliya Tadka	21.54	70.76
BHESAN	Rafaliya	21.56	70.76
BHESAN	Ranpur	21.57	70.66
BHESAN	Ranshivav	21.46	70.60
BHESAN	Ratanpara	21.48	70.60
BHESAN	Samatpara	21.55	70.61
BHESAN	Sankrola	21.63	70.77
BHESAN	Sardarpar	21.56	70.86



BHESAN	Sukhpur	21.61	70.62
BHESAN	Umralli	21.51	70.77
BHESAN	Vandarvad	21.50	70.68
JUNAGADH	GIRNAR HILLS	21.52	70.52
JUNAGADH	Ambaliya	21.57	70.35
JUNAGADH	Anandpur	21.40	70.51
JUNAGADH	Avatadiya Mota	21.40	70.57
JUNAGADH	Avatadiya Nana	21.36	70.57
JUNAGADH	Badalpur	21.38	70.57
JUNAGADH	Bagdu	21.36	70.51
JUNAGADH	Baliyavad	21.59	70.55
JUNAGADH	Bamangam	21.58	70.49
JUNAGADH	Bandhala	21.45	70.62
JUNAGADH	Bela	21.39	70.57
JUNAGADH	Bhalgam	21.44	70.59
JUNAGADH	Bhavnath	21.52	70.49
JUNAGADH	Bhiyal	21.64	70.49
JUNAGADH	Bilkha	21.44	70.58
JUNAGADH	Bordevi	21.44	70.53
JUNAGADH	Chobari	21.51	70.42
JUNAGADH	Choki	21.66	70.53
JUNAGADH	Chokli	21.60	70.53
JUNAGADH	Chorvadi	21.42	70.57
JUNAGADH	Datar Hills	21.44	70.51
JUNAGADH	Dervan	21.58	70.51
JUNAGADH	Dolatpara	21.55	70.47
JUNAGADH	Dungar Thana	21.47	70.53
JUNAGADH	Dungarpur	21.46	70.47
JUNAGADH	Galiyavada	21.57	70.43
JUNAGADH	Goladhar	21.62	70.39
JUNAGADH	Hasnapur	21.57	70.51
JUNAGADH	Indreshvar	21.51	70.50
JUNAGADH	Intala	21.41	70.47
JUNAGADH	Isapur	21.61	70.55
JUNAGADH	Ivnagar	21.47	70.43
JUNAGADH	Jambudi	21.51	70.52
JUNAGADH	Jamka	21.34	70.53
JUNAGADH	Jhalansar	21.65	70.43
JUNAGADH	Jhanjharda	21.52	70.43
JUNAGADH	Joshiपुर (M)	21.52	70.45
JUNAGADH	Junagadh Mun. Corpor	21.52	70.44
JUNAGADH	Kathrota	21.62	70.53
JUNAGADH	Kerala	21.64	70.47
JUNAGADH	Khadiya	21.42	70.52
JUNAGADH	Khalilpur	21.55	70.43

JUNAGADH	Khamdhrol	21.55	70.45
JUNAGADH	Limdi Dhar	21.43	70.53
JUNAGADH	Majevdi	21.60	70.40
JUNAGADH	Makhiyala	21.61	70.45
JUNAGADH	Mandanpara	21.43	70.57
JUNAGADH	Mandlikpur	21.48	70.62
JUNAGADH	Mevasa Kamribaina	21.40	70.60
JUNAGADH	Mevasa Khadiya	21.40	70.52
JUNAGADH	Nava Pipaliya	21.47	70.65
JUNAGADH	Navagam	21.43	70.58
JUNAGADH	Padariya	21.46	70.48
JUNAGADH	Palasva	21.46	70.46
JUNAGADH	Patapur	21.42	70.49
JUNAGADH	Patrapar	21.57	70.37
JUNAGADH	Pipardi Timbo	21.63	70.43
JUNAGADH	Prabhatpur	21.38	70.54
JUNAGADH	Rameshvar	21.39	70.56
JUNAGADH	Ramnath	21.42	70.52
JUNAGADH	Rupavati	21.58	70.31
JUNAGADH	Sabalpor	21.56	70.47
JUNAGADH	Sagdividi	21.47	70.43
JUNAGADH	Salatha	21.41	70.48
JUNAGADH	Sankhdavadar	21.36	70.57
JUNAGADH	Saragvada	21.56	70.45
JUNAGADH	Semrala	21.35	70.54
JUNAGADH	Sodvadar	21.44	70.45
JUNAGADH	Sukhpur	21.58	70.47
JUNAGADH	Surajkund	21.50	70.57
JUNAGADH	Taliyadhar	21.55	70.37
JUNAGADH	Thumbala	21.39	70.63
JUNAGADH	TimbaVadi	21.49	70.42
JUNAGADH	Toraniya	21.43	70.54
JUNAGADH	Umralla	21.43	70.64
JUNAGADH	Vadal	21.60	70.49
JUNAGADH	Vadasimdi	21.62	70.42
JUNAGADH	Vadhavi	21.56	70.40
JUNAGADH	Vanandiya	21.64	70.43
JUNAGADH	Vijapur	21.44	70.46
JUNAGADH	Virpur	21.57	70.42
KESHOD	Agatrai	21.36	70.25
KESHOD	Ajab	21.26	70.35
KESHOD	Akhodad	21.33	70.12
KESHOD	Badodar	21.34	70.28
KESHOD	Balagam	21.36	70.09
KESHOD	Bamnasa	21.38	70.15

KESHOD	Bava Simroli	21.23	70.19
KESHOD	Bhat Simroli	21.22	70.17
KESHOD	Chandigadh	21.34	70.19
KESHOD	Changodarda	21.27	70.14
KESHOD	Char	21.24	70.16
KESHOD	Chitri	21.33	70.31
KESHOD	Dervan	21.38	70.31
KESHOD	Dhrabavad	21.32	70.32
KESHOD	Eklara	21.23	70.21
KESHOD	Fagli	21.33	70.29
KESHOD	Gelana	21.22	70.23
KESHOD	Handla	21.35	70.20
KESHOD	Idhaniya	21.25	70.16
KESHOD	Indrana	21.39	70.08
KESHOD	Isra	21.32	70.16
KESHOD	Jonpur	21.38	70.21
KESHOD	Kalavani	21.22	70.26
KESHOD	Kaneri	21.29	70.31
KESHOD	Keshod (M)	21.30	70.25
KESHOD	Kevadra	21.25	70.22
KESHOD	Khamidana	21.30	70.12
KESHOD	Khirsara	21.30	70.08
KESHOD	Koyalana Lathiya	21.22	70.25
KESHOD	Madhda	21.37	70.19
KESHOD	Magharwada	21.36	70.29
KESHOD	Manekwada	21.39	70.27
KESHOD	Mangalpur	21.39	70.23
KESHOD	Mesvan	21.25	70.28
KESHOD	Moti Ghansari	21.28	70.18
KESHOD	Movana	21.32	70.22
KESHOD	Muliyasa	21.38	70.18
KESHOD	Nani Ghansari	21.29	70.17
KESHOD	Nonjhanvav	21.32	70.37
KESHOD	Nunarda	21.27	70.14
KESHOD	Padodar	21.34	70.16
KESHOD	Panchala	21.32	70.09
KESHOD	Panchala Pati	21.33	70.09
KESHOD	Pankhan	21.91	70.12
KESHOD	Pasvaliya	21.37	70.23
KESHOD	Pipli	21.31	70.18
KESHOD	Pransli	21.29	70.34
KESHOD	Rangpur	21.23	70.30
KESHOD	Raningpara	21.29	70.29
KESHOD	Revadra	21.21	70.24
KESHOD	Sangarsola	21.34	70.34

KESHOD	Sarod	21.35	70.14
KESHOD	Sarod Pati	21.36	70.12
KESHOD	Shergadh	21.23	70.33
KESHOD	Silodar	21.21	70.20
KESHOD	Sondarda	21.26	70.25
KESHOD	Sutrej	21.31	70.07
KESHOD	Titodi	21.29	70.15
MALIA	Achhidra	21.02	70.38
MALIA	Akala	21.15	70.37
MALIA	Akala Gir	21.04	70.44
MALIA	Ambalgadh	21.21	70.42
MALIA	Ambecha	21.12	70.31
MALIA	Amrapur Gir	21.16	70.43
MALIA	Avaniya	21.20	70.32
MALIA	Babra	21.10	70.42
MALIA	Barula	21.04	70.35
MALIA	Bhanduri	21.10	70.28
MALIA	Bhankharvad	21.19	70.35
MALIA	Bodi	21.22	70.39
MALIA	Budhecha	21.09	70.21
MALIA	Chorvad (M)	21.02	70.23
MALIA	Chuldi	21.06	70.38
MALIA	Danderi	21.02	70.37
MALIA	Devgam	21.13	70.47
MALIA	Dhanej Moti	21.08	70.31
MALIA	Dhanej Nani	21.08	70.30
MALIA	Dharampur	21.13	70.42
MALIA	Dhrabavad	21.08	70.43
MALIA	Dubhala	21.14	70.38
MALIA	Gadu	20.05	70.29
MALIA	Galodar	21.14	70.27
MALIA	Gangecha	21.20	70.30
MALIA	Ghumli	21.06	70.24
MALIA	Ghunghati	21.12	70.31
MALIA	Gotana	21.08	70.23
MALIA	Itali	21.12	70.35
MALIA	Jalondar	21.16	70.47
MALIA	Janadi	21.13	70.32
MALIA	Jangar	21.07	70.42
MALIA	Januda	21.03	70.31
MALIA	Jhadka	21.07	70.29
MALIA	Jhunjharpur	21.03	70.20
MALIA	Kadaya	21.09	70.33
MALIA	Kalimbhda	21.15	70.39
MALIA	Kanek	21.03	70.24

MALIA	Katrasa	21.15	70.44
MALIA	Kerala	21.14	70.35
MALIA	Khambhaliya	21.04	70.18
MALIA	Khera	21.06	70.26
MALIA	Khorasa Gir	21.05	70.32
MALIA	Kukasvada	21.05	70.20
MALIA	Lachhadi	21.05	70.41
MALIA	Ladudi -Gir	21.10	70.45
MALIA	Langodra	21.07	70.20
MALIA	Malia	21.15	70.30
MALIA	Matarvaniya	21.19	70.37
MALIA	Panidhra	21.19	70.25
MALIA	Pankuva	21.09	70.36
MALIA	Patla	21.06	70.36
MALIA	Pikhor	21.18	70.21
MALIA	Pipalva	21.04	70.39
MALIA	Samdhiyala	21.06	70.29
MALIA	Sarkadiya	21.13	70.36
MALIA	Shantipura	21.02	70.31
MALIA	Sukhpur	21.01	70.28
MALIA	Tarsingda	21.21	70.40
MALIA	Vadala	21.18	70.32
MALIA	Vadiya	21.12	70.33
MALIA	Vandarvad	21.12	70.38
MALIA	Virdi	21.17	70.38
MALIA	Visanvel	21.03	70.26
MANAVADAR	Ambaliya	20.97	70.38
MANAVADAR	Bantwa (M)	21.48	70.07
MANAVADAR	Bhalechda	21.49	70.16
MANAVADAR	Bhalgam	21.52	70.04
MANAVADAR	Bhindora	21.62	70.11
MANAVADAR	Bhitana	21.42	70.05
MANAVADAR	Bodka	21.47	70.23
MANAVADAR	Buri	21.54	70.11
MANAVADAR	Chikhlodra	21.58	69.98
MANAVADAR	Chudva	21.59	70.22
MANAVADAR	Dadva	21.52	70.08
MANAVADAR	Dagad	21.50	70.17
MANAVADAR	Deshinga	21.57	70.00
MANAVADAR	Eklara	21.50	70.03
MANAVADAR	Galvav	21.49	70.19
MANAVADAR	Gana	21.62	70.10
MANAVADAR	Indra	21.58	70.11
MANAVADAR	Jambuda	21.51	70.16
MANAVADAR	Jilana	21.54	70.12

MANAVADAR	Katakpara	21.47	70.20
MANAVADAR	Khadiya	21.58	70.25
MANAVADAR	Khakhavi	21.46	70.12
MANAVADAR	Kodvav	21.51	70.01
MANAVADAR	Kothadi	21.43	70.19
MANAVADAR	Kothariya	21.47	70.16
MANAVADAR	Koylana	21.14	70.17
MANAVADAR	Limbuda	21.57	70.08
MANAVADAR	Manavadar (M)	21.49	70.12
MANAVADAR	Mandodra	21.41	70.15
MANAVADAR	Marmath	21.58	70.02
MANAVADAR	Matiana	21.39	70.10
MANAVADAR	Mitadi	21.47	70.14
MANAVADAR	Nakra	21.44	70.11
MANAVADAR	Nanadiya	21.44	70.09
MANAVADAR	Nandarkha	21.45	70.18
MANAVADAR	Padardi	21.38	70.07
MANAVADAR	Pajod	21.54	70.06
MANAVADAR	Piplana	21.43	70.24
MANAVADAR	Rafala	21.53	70.08
MANAVADAR	Ronki	21.52	70.17
MANAVADAR	Samega	21.52	70.01
MANAVADAR	Sanosra	21.52	70.19
MANAVADAR	Saradiya	21.58	70.04
MANAVADAR	Sarang Pipli	21.46	70.19
MANAVADAR	Sardargadh	21.57	70.19
MANAVADAR	Sherdi	21.58	70.13
MANAVADAR	Sitana	21.43	70.06
MANAVADAR	Sultanabad	21.49	70.10
MANAVADAR	Thaniyana	21.59	70.28
MANAVADAR	Thapala	21.50	70.00
MANAVADAR	Untadi	21.58	70.15
MANAVADAR	Vada	21.60	70.08
MANAVADAR	Vadala	21.41	70.08
MANAVADAR	Vadasda	21.66	70.11
MANAVADAR	Vekri	21.59	70.05
MANAVADAR	Velva	21.55	70.16
MANAVADAR	Zinzri	21.60	70.18
MANGROL	Ajak	21.23	70.02
MANGROL	Antroli	21.22	70.00
MANGROL	Arena	21.08	70.17
MANGROL	Bagasra-Ghed	21.37	69.97
MANGROL	Bamanvada	21.22	70.05
MANGROL	Bhatgam	21.17	70.19
MANGROL	Bhathrot	21.38	70.00

MANGROL	Chandvana	21.19	70.12
MANGROL	Chankhva	21.23	70.06
MANGROL	Chingariya	21.21	70.14
MANGROL	Chotilividi	21.14	70.22
MANGROL	Darsali	21.23	70.13
MANGROL	Dhelana	21.14	70.17
MANGROL	Divasa	21.20	70.02
MANGROL	Divrana	21.26	70.11
MANGROL	Farangta	21.20	70.07
MANGROL	Fulrama	21.39	70.03
MANGROL	Ghodadar	21.33	69.99
MANGROL	Gorej	21.19	70.13
MANGROL	Hantarpur	21.38	69.98
MANGROL	Husenabad	21.09	70.16
MANGROL	Jamvali	21.11	70.26
MANGROL	Juthal	21.16	70.24
MANGROL	Kalej	21.24	70.08
MANGROL	Kaletpar	21.13	70.15
MANGROL	Kankana	21.26	70.09
MANGROL	Kankasa	21.17	70.08
MANGROL	Karamdi	21.20	70.16
MANGROL	Khodada	21.06	70.17
MANGROL	Kotda Juna	21.12	70.16
MANGROL	Kotda Nava	21.12	70.16
MANGROL	Lambora	21.15	70.19
MANGROL	Langad	21.40	70.05
MANGROL	Lathodra	21.18	70.29
MANGROL	Lohej	21.16	70.06
MANGROL	Maktupur	21.13	70.09
MANGROL	Mangrol (M)	21.12	70.11
MANGROL	Mankhetra	21.15	70.12
MANGROL	Mekhadi	21.25	70.03
MANGROL	Menanj	21.18	70.12
MANGROL	Miti	21.42	70.00
MANGROL	Nagichana	21.21	70.10
MANGROL	Nandarkhi	21.20	70.08
MANGROL	Navalkhodhed	21.34	70.00
MANGROL	Osa Ghed	21.36	70.05
MANGROL	Rahij	21.15	70.08
MANGROL	Roodalpur	21.16	70.13
MANGROL	Sakrana	21.17	70.22
MANGROL	Samarda	21.30	70.00
MANGROL	Sandha	21.30	70.04
MANGROL	Sangavada	21.19	70.02
MANGROL	Sarsali	21.28	70.08

MANGROL	Shaikhpur	21.12	70.17
MANGROL	Shapur	21.10	70.13
MANGROL	Sharma	21.31	69.98
MANGROL	Shepa	21.11	70.19
MANGROL	Sheriyaj	21.09	70.15
MANGROL	Sheriyakhan	21.11	70.19
MANGROL	Shil	21.19	70.04
MANGROL	Sultanpur	21.17	70.16
MANGROL	Talodra	21.19	70.07
MANGROL	Thali	21.28	70.06
MANGROL	Vadla	21.22	70.04
MANGROL	Virol	21.26	70.07
MANGROL	Virpur	21.16	70.20
MANGROL	Zariyavada	21.20	70.05
MENDARDA	Alidhra	21.35	70.42
MENDARDA	Amargadh	21.30	70.43
MENDARDA	Ambala	21.26	70.46
MENDARDA	Ambla	21.29	70.37
MENDARDA	Amrapur	21.20	70.47
MENDARDA	Arniyala	21.35	70.36
MENDARDA	Babar Tirath	21.27	70.44
MENDARDA	Barvala	21.34	70.38
MENDARDA	Chandravadi	21.22	70.44
MENDARDA	Chiroda	21.33	70.47
MENDARDA	Datrana	21.37	70.46
MENDARDA	Dedakiyal	21.23	70.45
MENDARDA	Devgadh	21.29	70.42
MENDARDA	Dhandhawada	21.32	70.37
MENDARDA	Gadakiya	21.18	70.52
MENDARDA	Gadhali	21.24	70.41
MENDARDA	Gundala	20.90	70.01
MENDARDA	Gundiyali	21.20	70.49
MENDARDA	Itali	21.30	70.55
MENDARDA	Jambudi Nes	21.21	70.53
MENDARDA	Jhinjhuda	21.31	70.48
MENDARDA	Kanthala Nes	21.22	70.55
MENDARDA	Karsangadh	21.23	70.52
MENDARDA	Kenadipur	21.27	70.48
MENDARDA	Khadpipli	21.39	70.42
MENDARDA	Khijadiya	21.26	70.41
MENDARDA	Khim Padar	21.39	70.45
MENDARDA	Kiloriya Nes	21.23	70.53
MENDARDA	Lilva	21.26	70.43
MENDARDA	Malanka	21.24	70.50
MENDARDA	Manpur	21.30	70.45



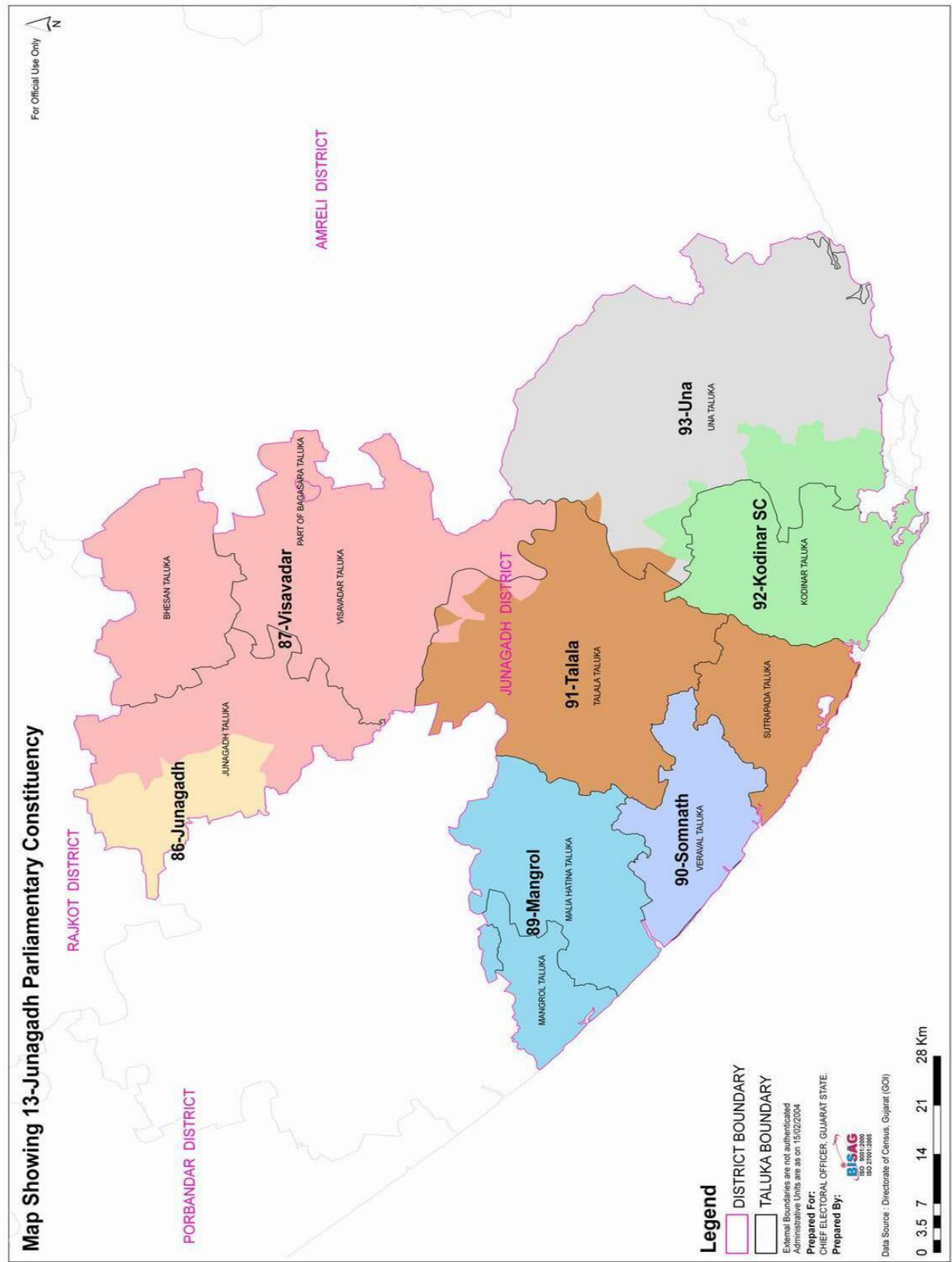
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MENDARDA	Mithapur	21.38	70.40
MENDARDA	Moti Khodiyar	21.32	70.52
MENDARDA	Nagalpur	21.39	70.48
MENDARDA	Najapur	21.18	70.54
MENDARDA	Najapur (Chhatariya)	21.18	70.55
MENDARDA	Nani Khodiyar	21.28	70.47
MENDARDA	Nataliya	21.28	70.51
MENDARDA	Patarama	21.23	70.43
MENDARDA	Rajavad	21.28	70.38
MENDARDA	Rajesar	21.31	70.38
MENDARDA	Ranidhar	21.20	70.48
MENDARDA	Samadhiyala	21.33	70.40
MENDARDA	Simasi	21.36	70.38
MENDARDA	Surajgad	21.19	70.54
MENDARDA	Timbi	21.23	70.46
MENDARDA	Vaniya Vav	21.23	70.51
VANTHALI	Akha	21.41	70.22
VANTHALI	Balot	21.50	70.34
VANTHALI	Bandhda	21.43	70.35
VANTHALI	Bantiya	21.52	70.28
VANTHALI	Barwala	21.54	70.31
VANTHALI	Bhatiya	21.41	70.39
VANTHALI	Bodka	21.42	70.37
VANTHALI	Dhandhusar	21.54	70.35
VANTHALI	Dhanfuliya	21.45	70.39
VANTHALI	Dungri	21.54	70.24
VANTHALI	Gadoi	21.42	70.28
VANTHALI	Ganthila	21.43	70.40
VANTHALI	Ghantiya	21.51	70.27
VANTHALI	Ghudvadar	21.44	70.44
VANTHALI	Kajaliya Mota	21.44	70.34
VANTHALI	Kajaliya Nana	21.45	70.37
VANTHALI	Kanjha	21.44	70.30
VANTHALI	Kanjhadi	21.44	70.33
VANTHALI	Khokharda	21.42	70.31
VANTHALI	Khorasa	21.36	70.33
VANTHALI	Khumbhdi	21.40	70.30
VANTHALI	Koyli	21.50	70.38
VANTHALI	Lushala	21.39	70.32
VANTHALI	Luvarsar	21.46	70.39
VANTHALI	Mahobatpur	21.42	70.42
VANTHALI	Meghpur	21.48	70.26
VANTHALI	Nagadiya	21.38	70.37
VANTHALI	Nandarkhi (Ranijividi)	21.52	70.39

VANTHALI	Naredi	21.50	70.25
VANTHALI	Navada	21.45	70.25
VANTHALI	Navlakhi	21.51	70.31
VANTHALI	Ranijividi	21.52	70.41
VANTHALI	Ravni	21.56	70.31
VANTHALI	Raypur	21.43	70.43
VANTHALI	Sahapur	21.49	70.40
VANTHALI	Santalpur	21.47	70.28
VANTHALI	Selra	21.45	71.41
VANTHALI	Sendarda	21.40	70.24
VANTHALI	Shapur	21.46	70..37
VANTHALI	Sonardi	21.43	70.42
VANTHALI	Sukhpur	21.42	70.44
VANTHALI	Thanapipli	21.40	70.36
VANTHALI	Tikar-padardi	21.42	70.20
VANTHALI	Tinmas	21.42	70.26
VANTHALI	Umatwada	21.53	70.39
VANTHALI	Vadla	21.47	70.40
VANTHALI	Vanthali (M)	21.47	70.33
VANTHALI	Vaspada	21.39	70.39
VANTHALI	Zampodad	21.52	70.24
VISAVADAR	Amaliyara	21.18	70.79
VISAVADAR	Ambala	21.35	70.79
VISAVADAR	Bagoya	21.25	70.83
VISAVADAR	Bajariya	21.18	70.77
VISAVADAR	Baradiya	21.33	70.58
VISAVADAR	Barvaniya Nes	21.20	70.67
VISAVADAR	Bhalgam	21.44	70.85
VISAVADAR	Bhat Vavdi	21.39	70.87
VISAVADAR	Bhutdi	21.36	70.77
VISAVADAR	Bogadiya	21.12	70.84
VISAVADAR	Chaparda	21.35	70.67
VISAVADAR	Chavand Juni	21.38	70.68
VISAVADAR	Chavand Navi	21.38	70.66
VISAVADAR	Chhalda	21.42	70.74
VISAVADAR	Chhelanka	21.38	70.78
VISAVADAR	Dadar	21.34	70.61
VISAVADAR	Desai Vadala	21.40	70.76
VISAVADAR	Devkaraniya	21.12	70.73
VISAVADAR	Dhebar	21.40	70.78
VISAVADAR	Dudhala	21.26	70.76
VISAVADAR	Ghantiyan	21.37	70.62
VISAVADAR	Ghodasan	21.37	70.85
VISAVADAR	Goradwala	21.13	70.75
VISAVADAR	Govindpara	21.32	70.79

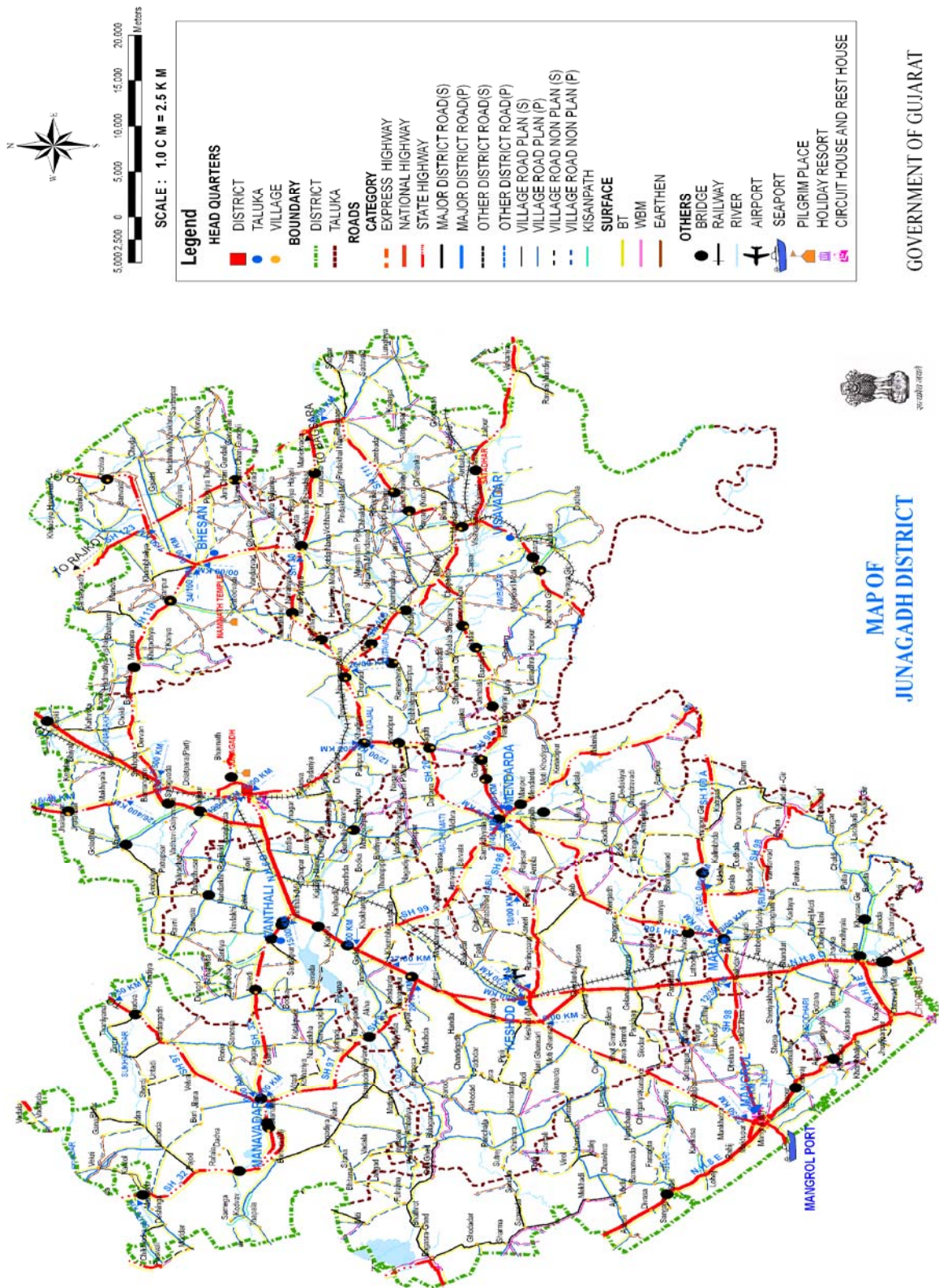
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VISAVADAR	Hadmatiya Nana	21.44	70.77
VISAVADAR	Haldarva Nes	21.19	70.77
VISAVADAR	Haripur	21.29	70.61
VISAVADAR	Hasnapur	21.26	70.81
VISAVADAR	Ishvariya (Gir)	21.31	70.63
VISAVADAR	Ishvariya Mandavad	21.41	70.71
VISAVADAR	Jambala	21.33	70.55
VISAVADAR	Jambuda	21.41	70.81
VISAVADAR	Jambudi	21.28	70.72
VISAVADAR	Javalidi	21.25	70.73
VISAVADAR	Jetalvad	21.35	70.82
VISAVADAR	Jhanjhesar	21.39	70.83
VISAVADAR	Kagmal	21.22	70.83
VISAVADAR	Kalavad	21.33	70.80
VISAVADAR	Kalsari	21.33	70.76
VISAVADAR	Kanavadla	21.44	70.77
VISAVADAR	Kanjarda	21.33	70.66
VISAVADAR	Kankai	21.11	70.79
VISAVADAR	Kankchiyala	21.37	70.83
VISAVADAR	Karkadi	21.10	70.82
VISAVADAR	Khambha Gir	21.28	70.63
VISAVADAR	Khambhaliya	21.39	70.65
VISAVADAR	Khambhda	21.20	70.75
VISAVADAR	Khijadiya	21.38	70.63
VISAVADAR	Kotda Mota	21.47	70.72
VISAVADAR	Kotda Nana	21.44	70.70
VISAVADAR	Kuba(Ravani)	21.39	70.76
VISAVADAR	Kutiya- Amliyara	21.15	70.82
VISAVADAR	Lalpur	21.33	70.84
VISAVADAR	Lasa	21.17	70.78
VISAVADAR	Leriya	21.39	70.71
VISAVADAR	Lilapani	21.15	70.81
VISAVADAR	Liliya	21.31	70.56
VISAVADAR	Limadhra	21.29	70.57
VISAVADAR	Lunghiya	21.40	70.92
VISAVADAR	Mahuda	21.39	70.80
VISAVADAR	Mahudi	21.39	70.80
VISAVADAR	Makhaniya	21.19	70.73
VISAVADAR	Manandiya	21.27	70.76
VISAVADAR	Mandavad	21.35	70.74
VISAVADAR	Manganath Pipli	21.42	70.70
VISAVADAR	Miya Vadla	21.32	70.62
VISAVADAR	Moniya	21.36	70.69
VISAVADAR	Monpari Moti	21.30	70.65

VISAVADAR	Monpari Nani	21.35	70.64
VISAVADAR	Mota Bhilgala	21.18	70.69
VISAVADAR	Navaniya	21.47	70.67
VISAVADAR	Padapani	21.15	70.75
VISAVADAR	Panjrapole Ni Suva	21.17	70.80
VISAVADAR	Panvi	21.17	70.69
VISAVADAR	Pindakhai Moti	21.44	70.77
VISAVADAR	Pindakhai Nani	21.44	70.83
VISAVADAR	Pipaliya Hajani	21.47	70.77
VISAVADAR	Pirvad	21.50	70.78
VISAVADAR	Piyava Gir	21.26	70.67
VISAVADAR	Prempara	21.29	70.70
VISAVADAR	Rabarika	21.42	70.76
VISAVADAR	Rajpara	21.27	70.78
VISAVADAR	Ratang	21.31	70.60
VISAVADAR	Ravani (Kuba)	21.39	70.74
VISAVADAR	Ravani Mundiya	21.29	70.92
VISAVADAR	Rosali	21.13	70.81
VISAVADAR	Rupavati	21.42	70.71
VISAVADAR	Sarsai	21.34	70.69
VISAVADAR	Shapar	21.44	70.91
VISAVADAR	Shapar (Nes)	21.14	70.79
VISAVADAR	Shirvaniya	21.43	70.71
VISAVADAR	Shobhavadla Gir	21.35	70.57
VISAVADAR	Shobhavadla Lashkar	21.46	70.80
VISAVADAR	Sudavad	21.42	70.90
VISAVADAR	Sukhpur	21.40	70.74
VISAVADAR	Suwardi	21.16	70.79
VISAVADAR	Tadhi	21.23	70.81
VISAVADAR	Vadala Shetranj	21.36	70.61
VISAVADAR	Vajdi	21.41	70.68
VISAVADAR	Vekariya	21.31	70.91
VISAVADAR	Vichhavad	21.45	70.73
VISAVADAR	Virpur	21.42	70.61
VISAVADAR	Visavadar (M)	21.34	70.75

# 1. District Political Map (13-Junagadh Parliamentary Constituency).

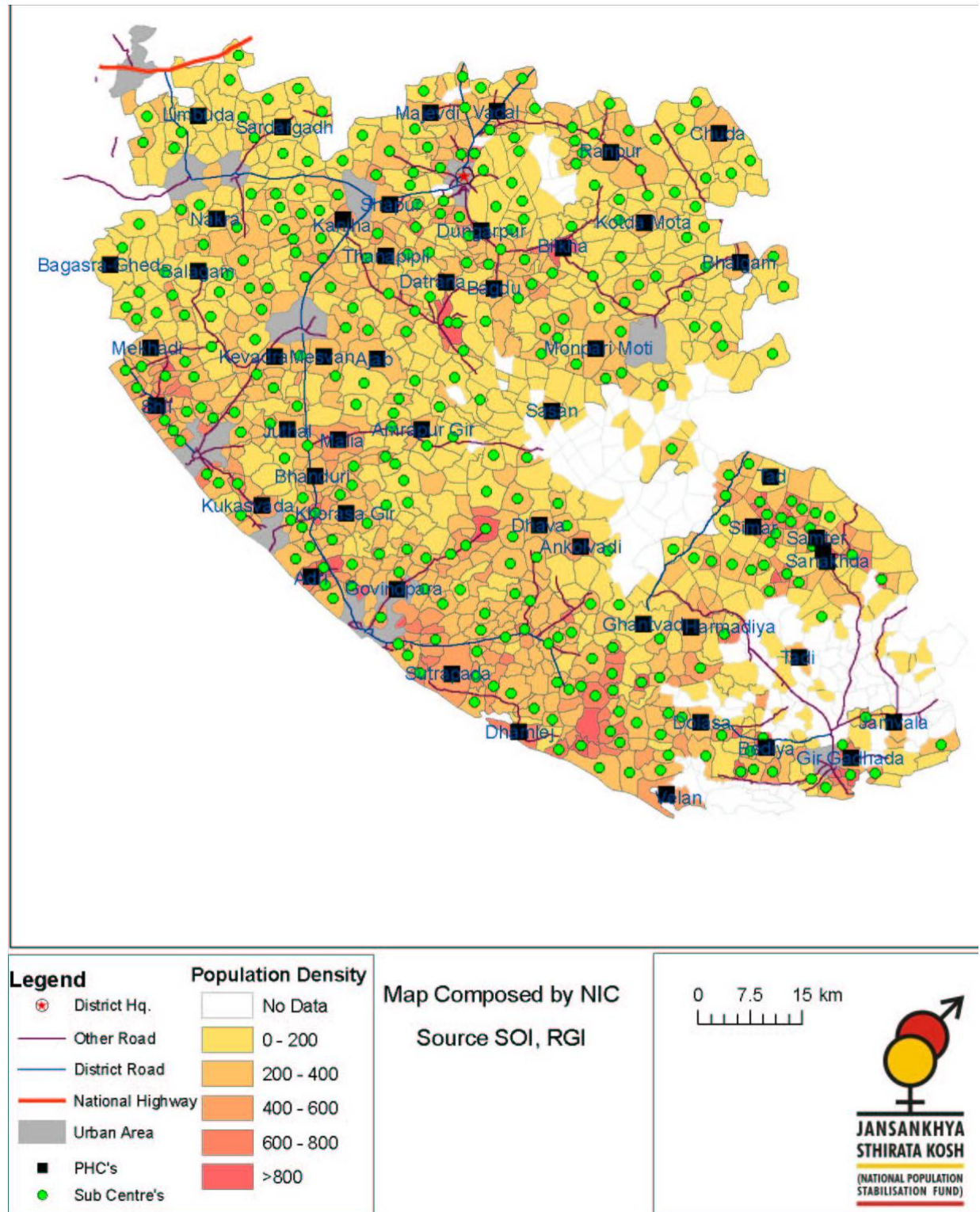


## 2. District Map showing roads and rail network, air ports and sea ports.

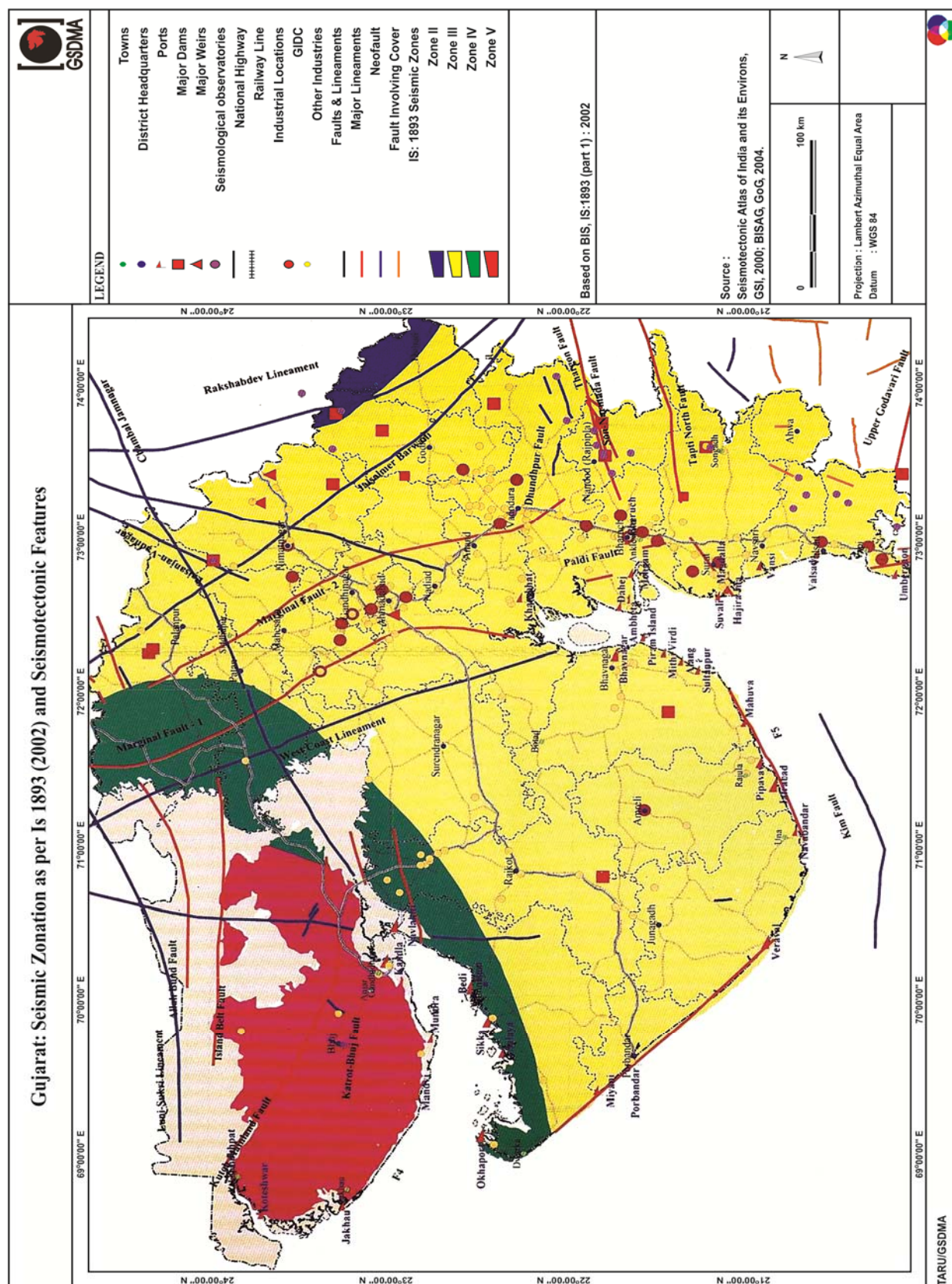




### 3. District Map showing population and density.

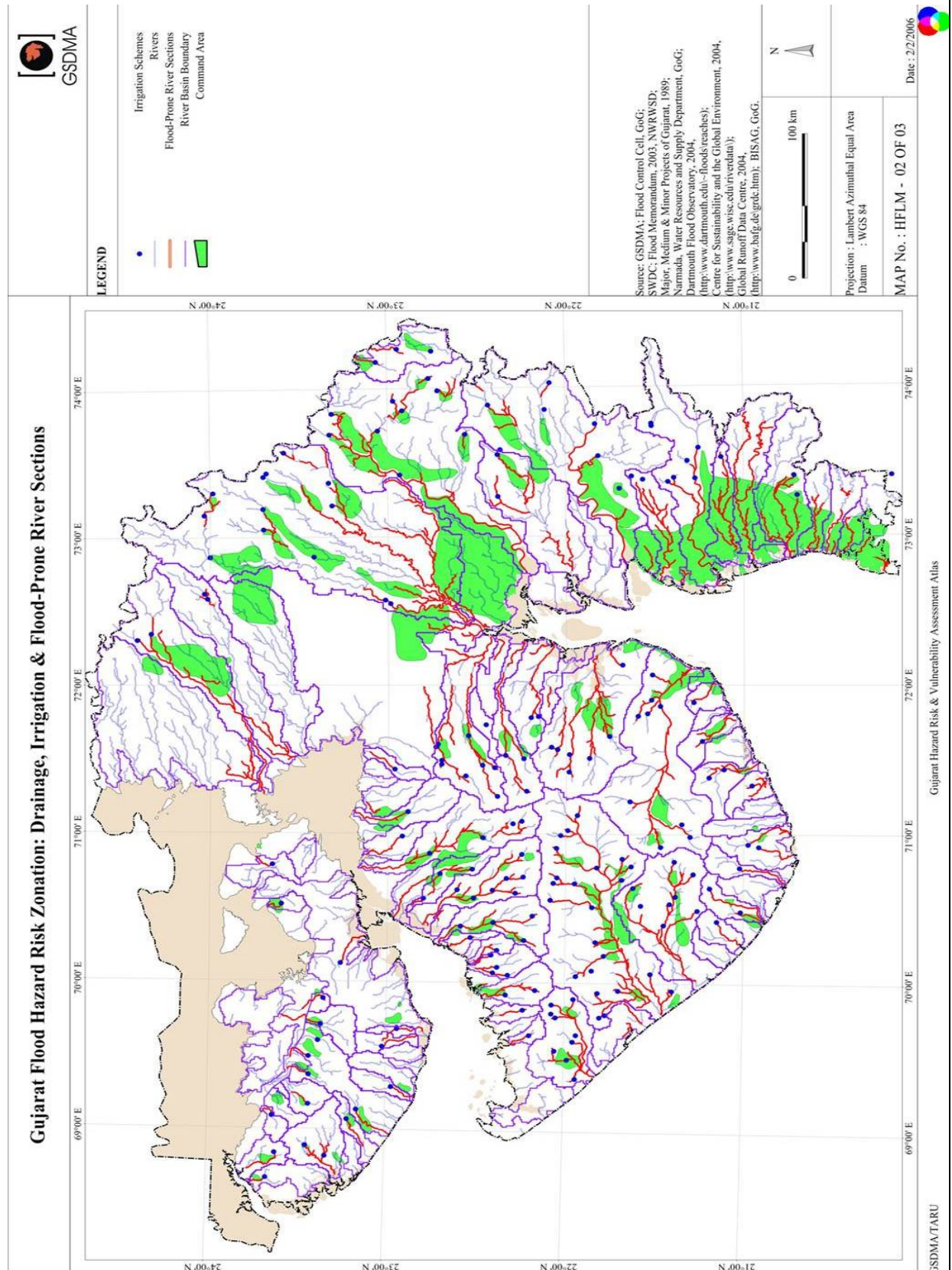


#### 4. Hazard Map (Earth Quack Fault Lines).

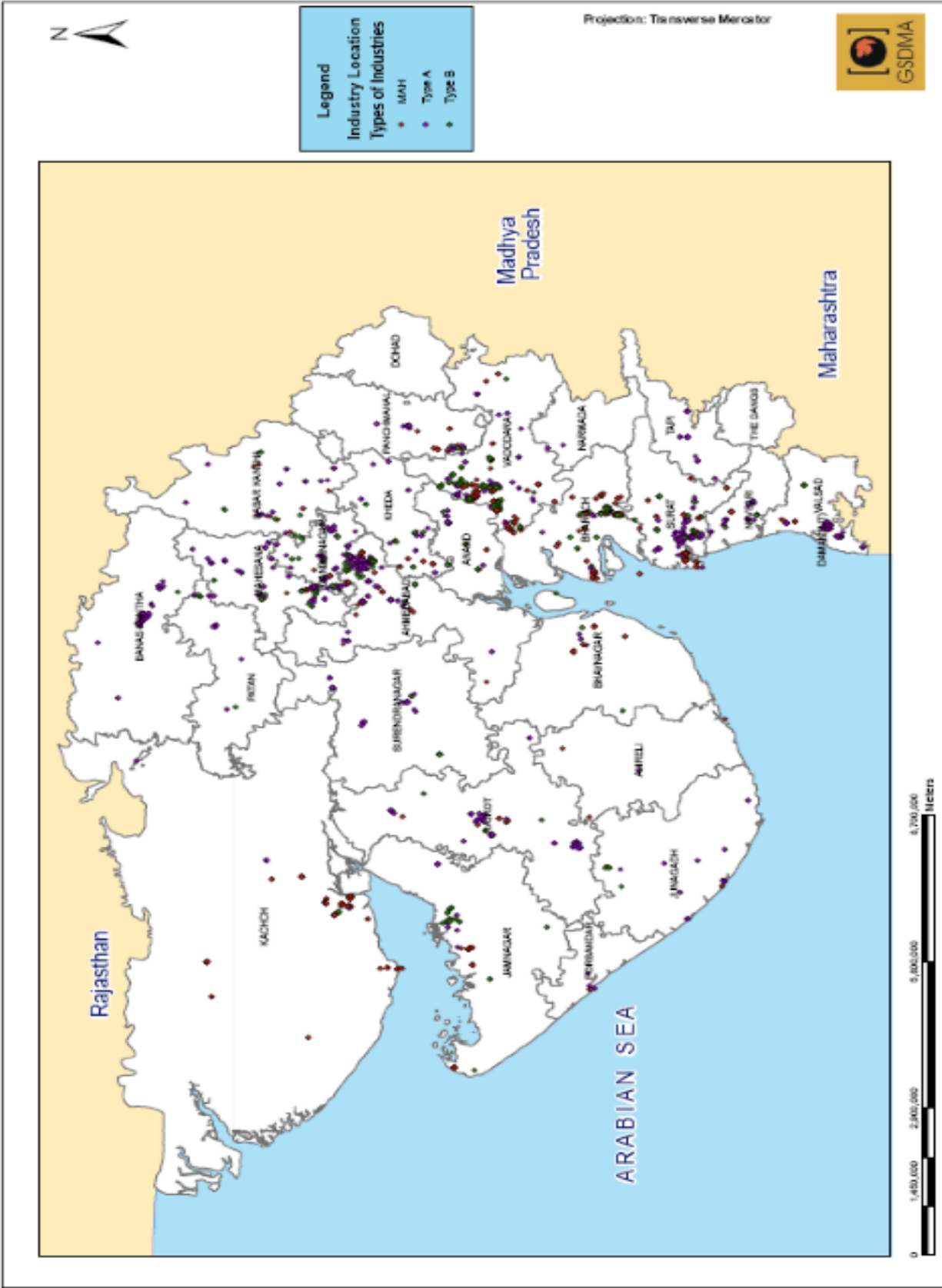




## 5. Risk Map (Rivers and Water Body).



6. Map showing critical infrastructure and installation in the State.





## 7. Map Showing Multi Hazard Zones in Gujarat.

